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An Exploratory Analysis of the Relationships Between Self-Images, Perceived-Risk, and Purchase Intention Horizons.

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AN EXPLORATORY ANALYSIS OF THE RELATIONSHIPS BETWEEN SELF-IMAGES, PERCEIVED-RISK, AND PURCHASE INTENTION HORIZONS

A Dissertation

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by
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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF EXHIBITS

ABSTRACT

The purpose of this study is to examine in some detail the nature of some commonly acknowledged psychological constructs related to consumer behavior. These constructs, perceptual in nature, are self-image and perceived risk. In addition, a third concept of more recent vintage was included: purchase intention expectations, or more simply time perceptions. The focus of the study was an exploration of interrelationships among the three constructs. The following objectives were specified:

1. to analyze the relationship between self-image and ideal self-image across a group of products, across time, and as this relationship relates to risk,

2. to investigate the relationships of the three types of risk (economic, social, and psychological) and overall risk to images, to products, and to time perception, and,

3. to investigate "overall" relationships which might aid in the interpretation of image and risk perception phenomena.

The data required for analysis of these relationships were collected from a sample of adult consumers who reside in selected areas of Baton Rouge, Louisiana. These respondents are representative of a large proportion of American consumers. To the extent possible, instrumentation (to include stimuli) were selected to reflect past

research in the areas of self-image and perceived risk. However, this consideration was modified by virtue of the fact that the interrelationships of the constructs was of primary concern.

An important aspect of this research was the issues of reliability and validity related to the instrumentation used. These issues were examined in detail, given the limiting nature of theory in the area of construct measurement. This effort pointed out shortcomings in the theory when applied to single-item measurement.

Hypotheses were constructed around each construct and around construct interrelationships. Testing of these hypotheses led to the following general conclusions:

1. Evidence of the sought relationships have been found in the data,
2. The relationships are not simple and vary from product to product and from construct to construct,
3. Different products and product groups display variations in risk/image relationships,
4. The various types of risk relate differently to the image factors,
5. Both risk and image factors seem to vary more widely with durable products than with convenience products,
6. In a general way, image congruence is associated with less risk perception,
7. Ownership was indicated as being related to both risk and image variables,
8. Consumer's reports of overall perceived risk

predict more accurately than their reports of specific risk types, and

9. The relationship between image matching and purchase intention horizons may not have much meaning for consumers when the concepts are applied to most products.

Based on the knowledge gained, a number of suggestions for further research have been generated. These suggestions relate to construct definition and refinement, to constructing and testing specific typologies of consumers, and to consideration of brands of products and other market factors.

CHAPTER I

CONCEPTUAL OVERVIEW

The purpose of this chapter is to provide a conceptualization which integrates the concepts of the self, perceived risk, and purchase intention time horizons. The chapter will accomplish this within the framework of a discussion of the perceptual processes. The three basic constructs can be used by the consumer in determining his "best" course of action in a consumption decision which must, perforce, occur in some social context. The chapter is organized as follows:

1. Symbolism and Human Behavior
2. Perception
3. Self-image
4. Ideal Self-image
5. Other Selves
6. Perceived Risk
7. Time
8. Self-image, Risk, and Time
9. Purpose of the Dissertation
10. Significance of the Dissertation

Symbolism and Human Behavior

Much, if not most, of human behavior is symbolic in its manifestations. Non-reflexive behaviors are largely designed to be carriers of symbolic meaning in a social context. That is, the physical behavior carries meaning to others in the social setting, which goes beyond the physical behavior itself. For instance, an individual may elect to satisfy a thirst need by drinking water, coffee or beer. Each drink carries a unique set of meanings to others in a given social context. The choice made communicates meanings which the individual considers appropriate for the social setting. The entire field of social psychology can be conceived of as a series of sets of alternative explanations for the meanings of various behaviors in social settings.

One of the most prominent kinds of behavior is the use of some physical "prop" which serves as a social symbol to facilitate, or complement the behavior involving the prop. In this context, physical props are used to communicate to the user's significant others (persons in the social setting whose feedback is important to the individual). The process of consumer decision making can thus be viewed as the process of selecting those goods and services which serve as the "best" social symbols for the consumer, given a set of current social conditions. Extension of this line of reasoning leads to the conclusion that

consumption decisions are essentially "matching" processes. In other words, the consumer is attempting to match available products with the needs he is currently experiencing. For instance, the prop, coffee, may match the thirst need at the office, while beer might be a better match at a social gathering after business hours.

The needs felt by the consumer go beyond maintenance of the biological unit. Indeed, biological maintenance alone would result in very little of what is termed consumer behavior. While there is a biological base for most of the needs felt by consumers, there is also a largely socialized psychological component. In fact, it is generally psychological maintenance that determines the nature of a consumption decision. If biological maintenance were the determinant, then any physical good satisfying a basic (generic) type of need would be adequate and there would be very little need for assortments of products in the marketplace. For instance, water would always satisfy the thirst need. Coffee and beer are merely embellishments of the basic product. However, since the psychological creature also needs satisfaction, particularly in more affluent societies, there is a demand for variation in the manifestation of biological satisfiers. The nature of psychological need components is the subject of much debate,[1] but

[1]The reader is directed not only to the wide variety of psychological theories, but also to the wide divergence of opinion within the individual fields, such as psychoanalysis (see Markin, 1974, pp. 164-196 for a summary).

one recurring theme is that the relation of the individual to other, external phenomena, is a perceived relationship.

Perception

Perception is one of the three cognitive processes, the others being learning and motivation. Markin (1974) defines perception as "the way in which the individual orders, structures, and interprets what he receives through his senses." He goes on to say:

> . . . perception is not a passive reception and automatic interpretation of stimuli, but is instead an active and dynamic process by which incoming data is selectively related to the existing cognitive map of the individual. (p. 116)

Thus, the process of perception is responsive to the environment of the individual. This being the case, perception of products is partially a function of the reception of external stimuli, their translation into relevant symbol sets, and their storage in some perceptual space against some future need. This perceptual space, or cognitive map, is unique to the individual. It is basically an operational framework for the perceptual process: for the symbolic organization, and assignment to cognitive positions, of the relevant components of incoming stimuli. However, perception is also partially a function of internal factors, those factors existent in the individual's psyche. Both external stimuli and internal factors are perceptually interpreted through a construct known as the self-image.

Self-image

The individual's perception of himself is known as the self-image. This self-image is widely recognized as a major determinant of human behavior. Perceptual space might be construed as a framework for perceptions of the internal individual (the self-image) as well as components of external stimuli. It is an area in which all of these things are organized and related to one another. Since perceptual space can be thought of as a space where cognitive positions are occupied, the process of matching--relating cognitive positions to one another--can be conceived of as a subprocess of perception. In other words, one of the functions of the perceptual process is the matching of externally and internally derived stimuli. For instance, the choice of a political candidate can be thought of as the process of matching the candidate's political platform to the political philosophy of the voter. The choice between beer and coffee can be thought of as the process of matching perceived attributes of beer or coffee to the personality of the individual and the requirements of the social setting. These examples illustrate that the matching process can be applied to any stimuli, including products, which are the focal point of this dissertation.

Origins of the Self-image

The "core" of the individual is his personality, which can be defined as the "sum total of an individual's

characteristics which make him or her unique" (Allport, 1960). Social psychologists sometimes perceive of personality as being represented by stable cognitive structures and thus functioning as a base for a relatively enduring cognitive style (Hollander, 1976). The center, or psychological core, of the personality of the individual consists of the individual's perception of his self. Since the personality is largely a product of social interaction,[2] the perception of self can be thought of as a product of social interaction. Social psychologists (Mead, 1934; Allport, 1960; Cooley, 1972) since James (1910) have discussed the socialized nature of the self-image. These writers view the self as a dynamic construct which is constantly being modified by inputs from the social environment in the form of approvals or disapprovals. The self-image is organized in a central position in perceptual space and all other stimuli are organized around it. Therefore, the self-image is the focal point of all stimulus organization and provides stimuli with their meanings.

Functions of the Self-image

In general, the self is a mediator between the individual and his environment, particularly his social environment. The individual's concept of the self should be

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[2]The model of personality being used here follows Hollander (1976) who suggests a core, a periphery, and role-related behaviors in a social environment. This is consistent with the treatment in Markin (1974).

of great importance since that concept is central to the organization of stimuli and motivations into constructs meaningful to the organizer.

The self-image may also function as a reference standard in the decision making context. The process by which the consumer decides whether a product or brand should be purchased could be conceptualized as the matching process mentioned earlier. The consumer perceives himself as a social object. He also perceives products (brands) as social objects. The process of perceiving results in some organization in perceptual space. These product perceptions are, to some degree, congruent with aspects of the perceived self. When a biological or psychological or combined motivation occurs, a particular subset of the components of the perceived self is brought into focus. Simultaneously, any product-related perceptions which are reasonably congruent with the relevant self perceptions, are brought into focus to some extent. The consumer is then in a position to decide which product concepts are the "best" match for the current self-image factors involved.

Finally, the self-image may provide the two basic behavioral motives involved in the matching process: self-image maintenance and self-image enhancement. Self maintenance refers to those motives which are related to "protecting" the self-image. Self enhancement refers to those motives related to "improving" the self-image. These

behaviors are often referred to as "actualizing" and "perfecting," respectively. Either of these motives (or even both simultaneously) may provide guidelines for behaviors. That is, some behaviors are engaged in specifically to satisfy maintenance and/or enhancement motives. For instance, the consumer may elect to purchase a new Buick automobile to replace his old Buick. This will maintain his self-image. He may, however, elect to purchase an Oldsmobile, thus enhancing his self-image.

Ideal Self-image

Another perception closely related to the self-image is the perception of an "ideal self." This concept requires that the consumer not only perceive of his current self, but that he also perceive of another self which is "superior" to the self along at least one of a number of dimensions. This perceived ideal self, known as the ideal self-image, is also located in the individual's perceptual space. The dimensions which are involved in defining the self are also involved in defining the ideal self. To the extent that the self and ideal self have similar locations (nearly equal values) on any one dimension, they are congruent along that dimension. Extending this idea, to the extent that the two perceptions have similar vectors in p-space, they are congruent along the p dimensions. Thus, there is an overall congruence between the two images as well as a potentially very large number of sub-congruences.

Confounding this relationship is the basic dynamism of the perceptual space involved and the social environments involved.

In the same context that the individual brings a set of relevant self dimensions into focus in response to a particular need motivation, an "ideal self" set is also available. Additionally, in the same context that the individual can match product dimensions to self dimensions, he can also match product dimensions to ideal self dimensions. In other words, there is also a congruence relationship between products (brands) and the consumer's perceived ideal self in the consumer's perceptual space.

There is some lack of clarity as to the identity of the ideal self-image. Landon (1974) takes the position that it is a generalized social ideal. In this context, the ideal self is the individual's perception of what he would like to be like as determined by his perception of what relevant others have deemed desirable characteristics for him. This is the context in which the ideal self will be used in this study.

Other Selves

A variety of other selves are available in the literature.[3] In addition, there are definitional problems

[3]In consumer behavior literature, Walters (1974) seems to have engendered a tradition of at least five selves. Epstein (1973) discusses a variety of selves in the social psychology vein.

even in the basic premise of a self (Epstein, 1973). None of these concepts will be dealt with specifically in this study, but there is room for further efforts involving these. For instance, ideal self might be used to denote a self which is defined by some concept such as Freud's superego, which is a very different kind of usage from the present one. In general, the great diversity of opinion seems to be primarily semantic in nature. Analysis of the literature has revealed very little substantive differentiation, particularly at the operational level. Therefore, in this presentation, the concept of self will be limited to the self and ideal self images.

Perceived Risk

To some degree, risk is perceived in all purchase situations and is, therefore, an important element in the understanding of consumer behavior. The following section discusses the origin, nature, and types of perceived risk.

Origin of Risk

The origin of risk perception might be conceptualized in the following manner. To the extent that the self-image is not totally congruent with the product-image in perceptual space, the consumer cannot be sure of the accuracy of the match that is made. To the extent that the consumer is unsure, there is a concommitant perception of risk if the product is considered for purchase. Thus,

perceived risk is potentially an outcome of every matching process. Hence, risk perception is associated with each behavior consciously engaged in. This is particularly true for those behaviors involving the selection of products because of the economic transaction involved in their procurement.

Nature of Risk

Whether risk inhibits or encourages purchase is probably situational, but it exists in all purchase considerations. Risk is a "future" anticipating phenomenon. The consequences being anticipated are anticipated as future states. The uncertainty is over future outcomes as well and may be a function of the length of time anticipated before the event and the severity of the consequences.

Following the reasoning of Cunningham (1967) and others, there are two basic aspects of this risk. First, the consumer perceives the consequences of choosing the wrong product and their severity. In addition, the consumer perceives the degree of lack-of-fit or uncertainty about choosing the correct product. The amount of risk actually involved is not the consumer's primary concern. What is important is the degree of uncertainty and severity of consequences the consumer perceives in a purchase situation. There are a number of kinds of risk inherent in the purchase situation. The dimensions involved

in the matching process determine the context of the risk perceived. Thus, there are potentially many kinds of risk.

Types of Perceived Risk

Peter and Tarpey (1975) have proposed a typology of six risk types. They are:

1. Economic--risk of monetary loss
2. Functional--risk that the product will not function in the expected manner
3. Social--risk of social disapproval becoming associated with use of the product
4. Psychological--risk of damage to the "self"
5. Physical--risk of physical harm from the use of the product
6. Time--risk of losing time because of the product.

In particular, the performance, psychological, and social (psychosocial) types of perceived risk have received attention from Markin (1974) and Arie and Wong (1978). Perceived psychosocial (social and psychological) is of particular interest to this study since a basic premise relates to the socialized nature of perceptions of self and ideal self, and also of perception of products and relationships among the three. That this is not the only kind of risk is obvious. For instance, the purchase of a new brand of beer may be socially desirable, but the purchaser is taking the chance that it will not taste as

good as his old brand (performance risk). Economic risk is inherent in the purchase of any automobile. Certainly the degree of perceived risk varies from risk type to risk type within a situation and from situation to situation. However, since a link is being made to socially determined images, psychosocial risk is of primary concern.

Time

The conceptualization of time as a mediating variable can be very important. Time is the vehicle of dynamicity. In its absence, relationships remain constant. Also, the perception of time may be distorted. In fact, this may be done purposefully by the individual in an attempt to perceptually avoid the severity of an anticipated event. There are at least two possible ways this could occur. First, if a product is not congruent with the self or ideal self-image, the individual may perceptually postpone (until some specified or unspecified future time) the purchase of the product even though he intends to own the product, or sees no alternative that is viable. Secondly, if risk perception is currently very high, the perceptual postponement may act as a temporary risk reducer until more information can be processed or image relationships change.

Note that these statements imply causality. Perhaps the opposite conclusions may be reached. For instance, if the consumer perceives the event of purchase to be in the distant future, he may not be concerned with high levels

of congruence currently. Alternatively, if the event is very far in the future, there may be no current effort to find satisfactory risk reducers. A meaningful framework which will make future research into possible causal relationships feasible is needed before attempting to deal with these specific issues.

Self-image, Risk, and Time

The self, the ideal self, their images, and perceived risk are all dynamic concepts. All are cast on a framework of time. They are aspects of the individual's perceptual space which is a time related phenomenon. The social environment maps the dynamic nature of time onto the perceptual space and consequently modifies all of these variables. In general, time can be considered as a constantly dynamic situational variable. In fact, the term "dynamic variable" is meaningless outside the concept of time.

Purpose of the Dissertation

The purpose of the dissertation is to examine certain relationships that might exist between constructs in perceptual space. Self-image, perceived-risk, and purchase intention horizon constructs all exist on the same cognitive map simultaneously. The relationships to be considered have been presented in the conceptual overview. They are:

Self-image to ideal self-image

Self-image and ideal self-image to time

Self-image and ideal self-image to perceived-risk

Risk to time

Self-image, risk, and time

The dissertation will investigate the relationship between self-image and ideal self-image using a group of products as scale anchors and time as a mediating variable. Simultaneously, the relationship between the self-image and three types of risk will be investigated. These risk types are: economic, social, and psychological. The latter two are of specific interest, but the former is included since it may, under certain circumstances, obscure the other two. The relationships of the ideal self-image and risk types will also be analyzed. Time will be considered as a mediating variable in all of these investigations, in keeping with the conceptualization that time provides a phenomenological framework for behavior.

Ownership has been found to be a significant influence both on self/product congruence (Belch and Landon, 1974) and on perceived risk (Popielarz, 1967). Specifically, ownership is expected to increase congruence and to decrease the level of perceived risk. These relationships will be specifically investigated and comparisons of owners and nonowners made. At this point, demographic variables will not be considered. This is due to the exploratory nature of this investigation. It is to be expected that in

the future, demographic variables can be fruitfully employed to deepen understanding of whatever phenomena are uncovered in this initializing attempt.

Significance of the Dissertation

A major effort has been made by Markin (1974) to set consumer behavior in a cognitive framework. Even more cogently, Grubb and Hupp (1968) have specifically called for a self-image based theory of consumer behavior as a more precise kind of formulation for the study of consumption phenomena. This dissertation will attempt to complement Markin's effort and to answer the challenge put forth by Grubb and Hupp.

Markin did not hypothesize a relationship between self-image and perceived-risk. While both are treated at some length and provided with reputations of importance in the text discussion, neither is given a specific reference in the Markin Holocentric Model. The reader is left to infer their positions and functions, and is certainly not provided with any framework for relating the concepts. In the process of demonstrating the existence and nature of such relationships, this dissertation will fill a major gap in the existing knowledge of consumer behavior.

Theoretical Significance

If the individual's perception of himself provides a point of reference for all of the rest of his cognitive

activities, and if these other variables (perceived-risk and ideal self-image) are closely related to the self-image and to perceptions of market phenomena, then the core of a self-image based theory of consumer behavior may be developed. This core would have a "tighter" and more integrative structure than the cognitive model presented by Markin (1974). In fact, most of what is currently known or proposed about consumer behavior is probably compatible with a relatively straightforward self-image centered conceptualization. These phenomena can be used to view the entire decision making process, the operation of psychological factors, the influence of environmental factors, and the dynamicity of consumer behavior.

From a narrower perspective, a link between two important research traditions will be established. Much of the variability found in risk research may be explained by self-image variation and vice-versa.

More formally, the objectives of the dissertation are the following:

1. to analyze the relationship between self-image and ideal self-image across the group of products, across time, and as this relationship relates to risk;
2. to investigate the relationships of the three types of risk (economic, social, and psychological) and overall risk to images, to products, and to time perception; and,

3. to investigate "overall" relationships which might aid in the interpretation of image and risk perception phenomena.

These relationships will be presented in greater detail in later chapters. To facilitate this investigation, a general model is proposed and several hypotheses constructed.

Applied Significance

The exploratory nature of this dissertation and the abstract nature of the conceptualization involved preclude the specification of concrete managerial implications. These must await the further development of research and theory in this area. As studies are conducted which will add fullness to the understanding of the phenomena involved, it will then be possible to posit specific strategic (possibly tactical) implications. At present, however, it is possible only to speculate somewhat on these implications.

In the era of the Marketing Concept, a major effort to ascertain what the consumer's self-image is, what it consists of, and most importantly, how to provide matching stimuli would seem to be of utmost importance. The entire marketing effort of the firm is (or should be) geared toward creating that image of the firm's offering which is most appealing to the consumer (most congruent with his self-image, or ideal self-image).

A self-image centered theory of consumer behavior

will be of use to practitioners in a general way in that it will provide a clearer understanding of the bases for consumer individuality. This will be accomplished in a more structured framework than the traditional approach which uses an "individual psychology" explanation for the behavior of consumers.

Finally, an image-based explanation of perceived risk can be valuable to practitioners in that the link may help them to understand why consumers procrastinate, why they become brand loyal, why they seek out their own information sources, why opinion leaders exist, and so forth. Such insights should suggest attempts at marketer controlled risk reduction.

In short, much of what practitioners already do heuristically may be made clearer and consequently more workable through a self-image centered understanding of consumer behavior. Even if such a global objective remains unfulfilled, it is very likely that simply exhibiting the relationships between self-images, perceived-risk, time, and product images will enable marketers to sharpen their skills and more clearly define operational objectives.

CHAPTER II

LITERATURE REVIEW

In this chapter, literature germaine to the conceptualization put forth in the first chapter will be reviewed. This will include an attempt to firmly establish the self-image as a viable construct of central concern to an understanding of consumer behavior. This construct will then be analyzed as it relates to product-specific behaviors in the marketing literature. The research related to perceived-risk will then be reviewed. The rather sparse literature related to the investigation of time as a variable will also be reviewed. Interrelationships among these constructs--the critical point of the conceptualization--will be highlighted last. The chapter is organized as follows:

1. Definition of Self-image
2. The Self-image Tradition in Marketing
3. The Perceived-risk Tradition
4. Time
5. Integration of Constructs
6. Setting for the Dissertation

Definition of Self-image

The existence of a self-image is of supreme importance to this dissertation. In the absence of this construct, the entire conceptualization, hence the entire study, would be meaningless. It is therefore important to view the firm position of the self-image as a social phenomenon.

The concept of a self is about as old as the field of psychology. Indeed, James (1910) deals with the self as a socialized phenomenon as a basic assumption. This is approximately the status accorded the self-image (by those who accepted its existence) for the entire period prior to Allport (1955). A variety of descriptions and conceptualizations were put forth,[1] all essentially without experimental verification. Sarbin (1952) introduced the concept that behavior is organized into cognitive structures. Allport (1955) used these cognitive structures as a framework for his "proprium" or life space. One of the key aspects of this proprium was a self-image, or a person's perception and evaluation of himself as an object of knowledge. In a later work, Allport (1960) discusses the self-concept as an organizer of needs and perceptions into a coherent whole. He goes on to say that the self-concept is an integral part of and grows out of the self-image, as defined in

[1] An excellent summary of the concepts of earlier writers is provided by Epstein (1973).

his earlier work. Prior to Allport's effort, there was apparently no such distinction, nor do we find such a distinction in later work.[2]

Thus, by 1960, we find social psychologists defining self-image rather than simply assuming its existence as had been done earlier. This is about the time Levy (1959) provided marketers with a rather crude working definition. Dolich (1969) formalized these working conceptualizations of the self-image (and ideal self-image). He then used the term self-image interchangeably with the term self-concept. Landon (1974) perpetuated the situation of ambiguity by failing to define either image or concept, and by using them interchangeably. On the other hand, Belch (1977) is very specific in his use of the terminology, stating that the self-concept is made up of the self-image and the ideal self-image. This is the opposite to the relationship which is set forth in social psychology theory by Allport (1960).

The issue at hand is not the correctness of the use of the definitions, but the very lack of clear-cut distinctions. Do both self-concept and self-image exist? If both exist, are they distinguishable? If they are distinguishable, what are the distinctions? If they are not operationally separable, the only real issue is one of definition and usage consistency. If they are operationally

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[2]Epstein (1973) discusses several "self" and "ego" concepts and dismisses them all as being interpretations of what he calls the individual's self-theory.

distinct phenomena, then tools should be developed which can provide the distinction. An assumption of this dissertation is that they are the same phenomena from an operational standpoint. The very lack of ability among theorists to provide and maintain distinctions is reason enough for this assumption.

A second issue is the lack of distinction between the "real" self (image or concept) and the "ideal" self. The ideal self-image does not seem to have as concrete an origin as does the self-image. However, Allport (1960) does discuss the multiple aspects of the proprium and imply such a phenomenon. The two have become practically inseparable in consumer behavior literature--to the extent that the nature of their relationship is of primary importance currently. Dolich (1969) operationalized the ideal-self as the consumer's perception of how he would like to be. This implies a life-goal. However, the actual use of the term ideal self (which can be inferred from various measurement scales) is a very different one. The operational definitions used in the studies to be reviewed imply a state of optimal social acceptability perceived by the individual. This meaning will be the type used in this study.

The Self-image Tradition in Marketing

Now that the position of the self-image has been demonstrated, it is time to be more specific and to

consider this phenomenon as it relates to consumption behavior. Remember that in the conceptualization put forth in Chapter I, the self-image is a construct around which product information is organized in perceptual space. This section considers the chronological development of thought and research related to this organizational phenomenon.

As mentioned above, Levy (1959) began the tradition of images as they relate to marketing, in particular self-images, although he did not deal with the subject in a formal way. His work was of a conceptual nature and dealt primarily with the symbolic nature of products and other market phenomena. The implication of his article is that people match what they perceive products to be (in symbolic form) with what they perceive themselves to be. Levy spends considerable time on the individuality of the matching and perception processes. Furthermore, Levy's theme emphasizes the psychological and sociological nature of product selection (in keeping with the social psychological origin of the concept of self-image).

The self-image--vis-à-vis self theory--first received formal recognition from Grubb and Grathwohl (1967) in a paper which dealt with self theory and symbolic interactionism in a conceptual way. Among other things, the paper discussed the shortcomings of personality theory when compared to self theory and concentrated on the social interaction origin of the individual's self-perception. They argue that goods are socially classified and that their

essence lies in their relation to the classifying individuals; hence their symbolic nature and apparent match-up with the individual's socially determined self-image. A logical model is constructed such that: ". . . the consuming behavior of an individual will be directed toward the furthering and enhancing of his self-concept through the consumption of goods as symbols" (p. 26). One final point made by Grubb and Grathwohl was that the self-image and self-ideal (ideal self-image) are highly congruent and either could be the chief motivator of a behavior.

The first real research effort was made by Birdwell (1968) in his now famous automobile study. Birdwell set out to illustrate that self-image (concept) was a better predictor of consumer behavior than was personality. Notably, it was also an early (perhaps the first) use of semantic differential scaling in marketing. Birdwell's major hypothesis was that an individual's perception of his own car matches his self-image. A second hypothesis, generally overlooked in discussions of Birdwell's research, was that ownership influenced perceptions of brands not owned, and that it did so differentially. He concluded that cognitive style, self-image, and environmental conditions determine a consumer's brand perceptions and influence purchase behavior.

Grubb and Hupp (1968), in a study contemporary to Birdwell's, appealed to another social psychological construct, attribution theory, to explore more fully the

socialized nature of the self-image. Basically, they proposed that owners of given brands of automobiles (Pontiac, GTO, and Volkswagen) attributed similar self-images to other owners of the same brand and significantly different self-images to owners of other brands. These expectations were borne out by the data collected, and furthermore, adjectival profiles were constructed for each type of owner. To some extent, the images attributed by the owners of one brand to the owners of the other brand were matched by the self-images of the owners of the second brand (this was true for VW owners, but not for GTO owners).

Following up on an idea in the Grubb and Grathwohl (1967) paper, Dolich (1969) concentrated on the relative influences of real self and ideal self (self-image versus ideal self-image), and the effect of social visibility on the congruence of product-image and self-image. Dolich concentrated on brands of products consumed socially (beer and cigarettes) and brands of products consumed privately (bar soap and toothpaste). He found that, in general, consumers' self-images were more congruent with images of brands most preferred than with images of brands least preferred and, in particular, that this relationship held for socially consumed products. An implication made but not specifically dealt with by Dolich was that self-image and brand-image were multidimensional phenomena. About the only inference made concerning the ideal self was that it

was more operant in rejection of brands than was the self-image, but not more operant in preference.

Hamm and Cundiff (1969) took a somewhat different (even unique) tack. Using the self-actualization construct as a reference, they proposed that satisfaction or non-satisfaction of this need would differentially influence product perceptions. The rationale seems to have been that given demographic equality, consumers could be effectively segmented on this rather pervasive construct. Self-actualization was operationalized as the degree of agreement (discrepancy scoring) between a self Q-sort and ideal self Q-sort of products used to describe real and ideal self. Two groups of respondents--low self-actualizers and high self-actualizers--were constructed and a comparison made based on which products were given which rankings in constructing the Q-sorts. Hamm and Cundiff found that the high self-actualized group was more uniform in product perceptions. They also found that the two groups differed in their self-images and in their ideal self-images--particularly the latter. Note that high self-actualization is also called high self/ideal congruence (Wells and Marwell, 1978). Product-image to self-image or ideal self-image congruence is assumed in the Q-sort technique. Hamm and Cundiff found that this assumption seemed to be valid. A final observation is that this first attempt at product anchoring did reveal differences in perceptions and congruence.

In a study designed primarily to demonstrate the use of multidimensional scaling (MDS), Green et al. (1969) contributed two cogent points to an understanding of image congruence. First, they proposed that product- or brand-images occupy positions in the same cognitive space as self-images or ideal self-images (an assumption necessary in MDS). This study has also proposed just such a relationship in the conceptual overview in the first chapter. Green et al. defined congruence as euclidean "closeness" in multidimensional space. They go on to propose that MDS is a valid technique for determining this closeness.

The second main point of the Green et al. study is the implication that different dimensions may be weighted differently in formulating composite images when adjectival images are constructed. (This observation might also apply to product anchoring.) A great deal of ambiguity appeared in the results of the MDS study, some of it due to the limitations of the methodology and some to the formulation of the research. However, a great deal of promise can be found in the use of this technique for image type studies.

Three of the five studies summarized so far have used the same product class, automobiles. Hughes and Guerrero (1971) used the same product class in their attempt to dislodge the concept of a self-image and replace it with a social-image. Their proposal was that for socially consumed products, consumers might seek congruity with what

they perceive to be socially desirable rather than seeking congruity with their self-images. Hughes and Guerrero allowed that for privately consumed products self congruity might be the goal rather than social congruity. They found that their proposed model was a fair predictor.

Automobiles were the focal point again when Grubb and Stern (1971) set out to look at some further implications of the Grubb and Hupp (1968) study reviewed above. In general, they expected to find that when the perceptions of significant others (people in the social environment who are important to the individual) were like the perceptions of brand users, then the users could be expected to have enhanced brand-images as long as favorable reactions were forthcoming from the significant others. They were able to provide support to hypotheses that predicted that the owner of a given brand perceived his self-image as being like the self-images of generalized users of the brand and unlike the self-images of generalized users of the competing brand (VW versus Mustang). In a variety of cross checked image matchings they found that there is an ability among consumers to articulate somewhat about the images they hold of themselves and others, whether their images are alike or not. This has important implications for understanding the multidimensionality of images.

Probably the most complete analysis of the area of consumer self-images in the marketing literature is the work of Landon (1974). In pointing out methodological

shortcomings of earlier work in the area, Landon was able to come up with a fresh approach to the analysis. First, he provided logical support for an argument that adjectival pairs may not be adequate measures of self-images and product-images simultaneously. This type of anchoring had been used in the earlier studies (see Grubb and Hupp, 1968; Grubb and Stern, 1971).

Landon also took up an issue raised by Evans (1968). This issue relates to the presence of ownership in the measurements. All the earlier studies had been conducted in a post-purchase setting. Evans and Landon both argued that ownership had produced noise in the research findings. Since the matching process is the focus of concern, attention should be focused on the deliberation phase and not the justification phase.

Finally, Landon also provides support for the differential influences of self-image and ideal self-image. He used these two constructs to differentiate between actualization (self-image influence) and perfection (ideal self-image influences) behaviors. Actualization refers to an immediate satisfaction oriented behavior, while perfection implies a deliberation involving potentially long-run considerations. Specifically, Landon hypothesized that self-image significantly influences intentions to purchase, rather than merely being correlated with ownership. He further hypothesized that for each product, self-image and ideal self-image would be differentially related to product

image and that some individuals would be predominantly motivated by the actualization tendency and others by the perfection tendency. This proposal has profound implications for efforts directed at the development of consumer typologies. Analysis of data indicated strong support for all the propositions he put forth. In addition, he found a strong positive relationship between the self-image and the ideal self-image. An interesting aspect of Landon's study is the "future" nature of the congruence relationship. To facilitate his research, he collected data on when repondents intended to purchase the products next, but made no inferences from this data.

In a follow-up response to some methodological questions about the Landon study, Belch and Landon (1977) pursued several peripheral relationships between images and possible sources of perturbation in the data. They found that social desirability (the perceived social popularity of an object) affected the matching process. However, they found that the effect was essentially equal on the self-image and ideal self-image. The relationship is logical: if self-image and ideal self-image are at least partially products of social interaction, then there will be a socially oriented aspect to their functions.

Belch and Landon (1977) found that ownership does have a significant effect on congruence of product-image to self-image and ideal self-image. This variable also affects intentions to purchase, which social desirability

did not do. The results reported by Landon (1974) and Belch and Landon (1977) set the stage for a new genre of self-image and consumer behavior research.

A pair of studies appearing about the same time as that of Belch and Landon related the self-image to other psychological factors and to consumer behavior in a general way. Gentry et al. (1978) found that sex was a more important predictor of behavior than was masculine or feminine personality orientation. However, they also indicated that the psychological factors do have an effect on image-related deliberations. Belch (1977) considered belief systems (the general perceptual organization of the world of the consumer), and found that individuals who exhibited high self to ideal image congruence also exhibited certain kinds of belief orientations. He also found that the type of belief orientation was related to actualization and perfection tendencies discussed above (Landon, 1974). Belch also found, again, that ownership influenced these relationships.

The last study to be considered in this area was concerned with the time framework of congruence relationships (Gaulden, 1978). The purpose was to explicitly consider time as a variable which is related to the strength of congruence relationships and to the differential role of self-image and ideal self-image. The purchase intention horizon was introduced in this study. It was hypothesized that the further off in the future the purchase event

was perceived to be, the less important the self-image would be. Furthermore, the ideal self-image would tend to gain in influence relative to the self-image as intentions receded into the future. The hypotheses were supported.

Summary and Critique of Image Literature

The literature reviewed so far has dealt almost exclusively with self-images, in conjunction with ideal self-images in many cases. The studies have supported the contention that the self-image and ideal self-image are separate constructs. Further, it has been demonstrated that they function differently, although they may be highly congruent. Ownership has been demonstrated as a significant factor in the congruence relationships. Other psychological variables have been shown to be influential on congruence relationships. Finally, it has been demonstrated that intentions to purchase are related to the self-images.

Early work in this area (prior to Landon, 1974) was fragmented. Often, very different conceptual or empirical bases were used in the research. In spite of this fact, several significant contributions toward understanding self-image phenomena were made, as pointed out above. One such contribution is the basic notion of congruence presented by Hamm and Cundiff (1969). They also suggested product anchoring in dealing with these phenomena. Hughes and Guerrero (1971) demonstrated the social nature of image

phenomena and products, implying a product-image. Grubb and Stern (1971) further explored this aspect of image phenomena. Finally, it must be mentioned, again, that Grubb and Grathwohl (1967) have specifically called for a self-image centered theory of consumer behavior. All of these contributions will be explicitly or implicitly included in the present effort.

The basis for later work in this area seems to be the major work by Landon (1974). The basic methodology employed in this dissertation will be that employed by Landon. Additional constructs (risk phenomena and purchase intention horizons) will be combined into this same basic format. Note that Landon was concerned only with image phenomena. The hypotheses investigated in this effort will link this type of effort with another major area.

The Perceived-Risk Tradition

The phenomenon "risk," by its definition, needs very little introduction. Risk is essentially the relationship between the nature of the outcome of an event and the probability that the outcome will occur. Since neither the outcome nor its probability can be known perfectly, risk must be an anticipation, an imperfect one. Construal of stimuli--past, present, and future--is precisely the function of cognitive structures, particularly the process of perception (Markin, 1974). Therefore, risk is of interest to consumer behaviorists. This section presents the

chronological development of thought and research in the area of perceived risk applied to marketing.

The tradition of risk literature in marketing began with Bauer (1960). The thrust of Bauer's effort was an attempt to integrate several phenomena which he felt were all related in some ways conceptually to the perception of risk. Specifically, he took the position that consumer behavior is a form of risk taking since every time the consumer considers a purchase, he perceives risk in the consumption process. This risk is somehow accommodated in the decision process. Bauer goes on to consider a number of phenomena within the context of this basic conceptualization.

Brand loyalty, for instance, may often be a technique of reducing risk. Along with the "added value" function of promotion, brand loyalty can be thought of as increasing confidence in the decision prior to its being formulated. Another phenomena Bauer places in this framework is opinion leadership. He contends that opinion leaders' functions include reduction of perceived risk through the "expert" status of the opinion leader. In a similar vein, reference groups were accorded status as risk reducers through the concensual validation process (approval through the absence of disapproval). Finally, Bauer considered prepurchase deliberation in the risk reduction process. He concluded that in this case, the resources available to the consumer and the risk of loss of those

resources were a motivation to plan purchases as a risk reduction strategy. In a summary statement, Bauer refers to Festinger's work in cognitive dissonance and points out the similarity of his ideas in a prepurchase setting to those of Festinger in a postpurchase setting.

Cox and Rich (1967) added some valuable insights to the original conceptualizations put forth by Bauer. Their study considered the effect of risk perception on telephone shopping. One aspect of the Cox and Rich effort was an initial formalization of some of Bauer's suggestions. In particular, they stated that:

> The amount of risk perceived by the consumer is a function of two general factors: the amount at stake . . . and the individual's feeling of subjective certainty that she will "win" or "lose" all or some of the amount at stake.

Cox and Rich were interested in differences in telephone shopping behavior and in the types of merchandise typically purchased by phone. As a result of a survey, they found that women do perceive risk in telephone shopping. In fact, the situation is very well structured for the production of perceived risk. The consumer has something at stake and there is certainly some room for uncertainty in the situation. They also found that, in this particular case, perceived risk is a major factor in the decision process. The more at stake, the more risk perceived. Also, the more unusual the product, the more risk perceived. Finally, they concluded that the more complex a decision

(in terms of subdecisions and so forth) the more risk perceived in telephone shopping behavior.

The multidimensional nature of perceived risk was the major theme of a paper by Cunningham (1967a). The vehicle of this concept was the idea that products may have several kinds of risk associated with them. In keeping with the earlier conceptualizations, Cunningham operationalized perceived risk as having consequence and certainty components. He found that perceived risk varied from respondent to respondent and also across product types. Also, perceived risk was found to consist of multiple components, or dimensions. However, ambiguity in his findings led Cunningham to the conclusion that risk perception was idiosyncratically related to each separate product category.

More specifically, Cunningham found that all product categories studied (headache remedies, fabric softeners, and dry spaghetti) contained perceived dangers, that respondents could distinguish and articulate danger types, and that risk perception is at least partly a function of sensitization through experience. He further found that some respondents perceived risk consistently across products (generalized tendency) as being either high or low and that a phenomenon he called a "riskiness continuum" is constructed by consumers. Finally, in relating perceived risk to self-confidence, he found that generalized self-confidence was not involved. He did find, however,

that intermediate or specific self-confidence (product class specificity) was related to perceived risk along the riskiness continuum. Thus, while the perception of risk was a generalized tendency among many respondents, it was also product specific in the sense that products fell along a riskiness continuum and that self-confidence directed toward the product was product-specific and not generalizable.

Another area explored by Cunningham (1967b) was the phenomenon of brand loyalty. À priori, the relationship between brand loyalty and satisfaction would seem to be ironclad. Satisfaction would seem to be a risk reducer. Therefore, it follows that brand loyalty can be viewed as an effective risk reduction strategy for the consumer. Bauer (1960) had suggested this relationship in his original formulation of perceived risk. In this study, Cunningham's primary emphasis was on the existence of this relationship between brand loyalty and risk. Specifically, he desired to relate perceived brand commitment (loyalty) to perceived risk. This relationship was found in an analysis of the products mentioned in the study cited above (Cunningham, 1967a).

In the study currently under review, Cunningham found that the more "serious" the nature of the perceived risk, the higher the level of perceived brand commitment. Satisfaction with current brand increased as product riskiness (global) decreased. An interesting aspect of these

findings is that there seemed to be no consistent pattern in the relationship between perceived risk and brand switching. As in his earlier study, perceived risk and specific self-confidence seemed to be inversely related, while generalized self-confidence bore no discernible relationship to perceived risk. The summary statement of this effort was:

> Consumers high in perceived risk (generalized) are more likely to be brand loyal--when they have good reasons for being so.

In other words, a relationship exists, but it is not simple. Two aspects of Cunningham's studies are notable. First, only three product categories were used, which makes inference difficult. Second, demographic variables were considered, but seemed to have no impact.

Arndt (1967) was primarily interested in the use of word-of-mouth information as a risk reducer, in lieu of brand loyalty. He found that the type of risk perceived was related to the overall magnitude of risk perception. Furthermore, magnitude was directly related to the use of word-of-mouth as a risk reducer. He concluded that high risk perception causes more information search via word-of-mouth and use of this information also increases. He further found that perceived risk was inversely related to opinion leadership behavior. Arndt further substantiated the relationship between perceived risk and self-confidence.

In his study, Popielarz (1967) examined the relationship between perceived risk and willingness to try new

products. The new product (or brand) is viewed as a high risk perception situation. Since there is little information or history to use, some other risk reduction scheme must be devised by the consumer. Popielarz's contention is that categorization can be used as a surrogate strategy by some consumers. If the consumer is a "wide" categorizer, she (sample consisted of housewives) is more likely to accept risk (reduction of risk through focus on similarities to experienced products, rather than focus on unique features). If the consumer is a "narrow" categorizer, she is more likely to avoid risk (focus on dissimilarities) by not purchasing the product. Both strategies are risk reduction strategies. A unique aspect of the Popielarz study is the implication that risk can be perceived in not buying a potential satisfier just as it is perceived in the decision to buy. One is tempted to compare wide categorizers to perfectors in the self-image sense, and to compare narrow categorizers to actualizers. The analogy is not exact, but it is suggestive. Popielarz's conclusion concerning perception of risk in nonbuying decisions is suggestive of risk types, since it would seem that not buying would not involve economic risk, but might involve social risk for the consumer, since nonownership may be stigmatic in his social settings.

An experimental setting was used by Sheth and Venkatesan (1971) in an attempt to compare three risk reduction strategies: information seeking, prepurchase

deliberation and brand commitment. The experiment was designed to control for the uncertainty component of perceived risk and consequently to manipulate perceived risk in such a way as to make possible an examination of the three risk reduction processes and any possible interactions of the processes. Sheth and Venkatesan hypothesized that in the long-run brand loyalty is sought as the best risk reduction strategy, but in the short-run surrogate strategies (such as information gathering and prepurchase deliberation) must be used to "create" a brand loyalty environment. They concluded that perceived risk is a necessary (but not sufficient) condition for brand loyalty and that experience is an important aspect of the risk reduction process.

In the tradition of Cox and Rich (1967), Spence et al. (1970) considered the risk perceived in a type of purchase mode, mail-order, as opposed to retail buying. The authors contended that mail-order might be considered high in risk because of its essentially impersonal nature. The lack of direct prepurchase interaction with the product or the producer representative creates a risk perception environment. Spence et al. found that respondents consistently perceived more risk in the mail-order situation than in the store/salesman situation across a wide variety of products. The acceptance of risk, however, was apparently product specific. The primary contribution of this study to the current effort is the corroboration with earlier

studies on the product specificity (Cox and Rich, 1967).

Roselius (1973) proposed that there are essentially four ways to deal with perceived risk. First, the consumer can decrease either the uncertainty or the consequence severity components of perceived risk. Next, she can shift from one type of loss to another, more acceptable type of loss. Thirdly, she could postpone or forego the purchase and take a Type II error loss. Finally, she can accept the risk and make the purchase. Roselius considered eleven risk relief methods including brand-image, store-image, and word-of-mouth (all discussed earlier). He also considered four loss types: time, hazard, psychosocial, and economic. He found that some risk relievers are always useful and the usefulness of all relievers is a function of the type of perceived risk.

Peter and Tarpey (1975) were concerned that risk reduction was not the only criterion used by consumers in product decisions. They looked also at two other basic strategy types: (1) perceived return, in which the consumer selects the product or brand which maximizes perceived gain (analogous to perceived risk, only its opposite), and (2) net perceived return, in which the consumer's criterion consists of both risk and return components (N PR = return minus risk). Peter and Tarpey used six forms of risk and analogous return and net return types. The types considered were presented in Chapter I as:

financial--risk (chance) of monetary loss (gain)

performance--risk of nondelivery of expected utility or analogous gain

psychological--risk of injury to self-image or the chance of unexpected enhancement

physical--risk of physical injury or chance of unexpected health enhancement

social--risk of social embarrassment or unexpected social acclaim

time--risk of loss of time not expected to be lost using the product or unexpected time saving features of the product.

Automobiles were the product class used in the study, which was directed at an analysis of strategies used: risk reduction, perceived return, or net perceived return.

Peter and Tarpey found that consumers do perceive both negative and positive aspects of automobiles during the decision process. They also found that three of the risk types were present when automobiles were being considered. These were performance, social, and psychological. They concluded that the "expected congruence of the brand with the buyer's self image and reference group image" was an important determinant. The authors also state that there may be other risk types which have not been considered yet. Notably, there have been no other research efforts found which have included any risk types not found in their typology.

Schaninger (1976) stated that a wide variety of self-esteem measures have been used and all indicated the same relationship between self-esteem and perceived risk. His primary purpose was to examine the relationship between

generalized and specific perceived risk and several personality measures related to self-esteem, confidence, and anxiety of various types. Schaninger found that anxiety is related to perceived risk (generalized tendency) and that perceived risk was negatively related to self-esteem, confidence, and risk taking, as expected. This seems to indicate that risk is not alone in determining the outcome of a decision, but some personality related factors are also involved (such as self-image).

Sigli et al. (1978) concentrated their effort on socioeconomic[1] risk and reduction of that risk through information gathering from personal sources. They found a relationship between the magnitude of socioeconomic risk perception and the importance of personal information sources with the social risk component. An interesting aspect of the research was the finding that exposure in group settings to favorable information (social influence) was not an effective risk reliever. Furthermore, negative personal information did not seem to increase perceived risk while group interaction did bring about such an increase. In general, they concluded that social risk is more important than economic risk. It is important to note the seemingly peculiar way in which social setting seems to influence perceived social risk. The findings concerning the relative importance of economic and social risk types

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[1]Socioeconomic = psychological + social + economic.

is another interesting aspect of the findings.

Arie and Wong (1978) concerned themselves with values and their relationship to perceived risk. The basic rationale was that since perceived risk is a highly individualized predecisional phenomenon, it is very likely that value systems provide a framework for the phenomenon. Arie and Wong considered global values, domain-specific values, and evaluative beliefs in conjunction with the six risk types specified by Peter and Tarpey (1975). They found that for automobiles, financial risk was important as a predecisional variable, while social and psychological risk types were not. They also found that values were related to the evaluation of automobiles in general and in specific cases. The nonsignificant influences of social and psychological risk are at odds with the findings of Peter and Tarpey and with a priori expectations. The lack of relationship was not explained.

Summary and Critique of Perceived Risk Literature

Most of the consumer research conducted in the area of perceived risk was compressed into a fairly short period of time (1967-1970). Since then there have been a few major findings. The earlier work fairly well established the nature and functioning of perceived risk, leaving risk typologies until more recent years. This dissertation considers nature, functions, and typology simultaneously in

several of the hypotheses and in the basic conceptualization already presented.

Much of the early work in perceived risk was fairly descriptive in nature. Prior to Peter and Tarpey (1974), the efforts varied considerably in scope and content. Among notable contributions from this period was Arndt's (1967) effort which related risk to the socialization process. Cunningham (1967a) found that risk was both specific and general in nature and that self-confidence was only specific in nature. Sheth and Venkatesan (1971) considered some risk reduction strategies used by consumers. One interesting aspect of their work was that experience (ownership) was an effective risk reducer. Roselius (1973) was specifically concerned with types of risk as well as risk reduction strategies. These notable contributions are all incorporated into the present effort.

The area of risk was fairly well integrated by Peter and Tarpey (1975). The six risk types they introduced is the most comprehensive list to date. Note that they specifically deal with self-image and brand-image phenomena (see pages 42-43) in their description of risk phenomena. The format and definitions used in the current effort will follow Peter and Tarpey with some modifications due to Zigli et al. (1978). The essential extension in this effort will be integration of risk and image phenomena.

Time

Without waxing philosophical, it is very difficult to describe time. Time is a variable, but a "fixed" variable. It measures distance between events, and does so fairly precisely. It provides a framework which makes it possible for us to consider and compare event processes which have concluded, those in progress, and those yet to commence in a variety of ways. The entire concept of events preceding or following one another is dependent on the passage of time.

Time has been indirectly considered in a great multitude of studies. For instance, the stability of psychographic measures across time has recently been considered by Burns and Harrison (1979). The consumer decision making process which is the focal point of models such as the Engel, Kollatt, and Blackwell (1978) assumes the passage of time. In short, time is assumed, accepted, or even investigated as a situational variable. Very little effort has been expended, however, in considering time as a focal variable. Its very pervasiveness has possibly obscured its usefulness in understanding consumer phenomena. Recently, time has begun to receive some attention in consumer behavior literature as a precious resource (like money) (Engel, Blackwell, and Kollatt, 1978). Again, this treatment of time is a secondary treatment--even more so since income is variable while time is generally fixed in structure.

Perhaps it is the fixed structure of time that causes it to be overlooked as a variable.

The marketing literature has not considered time in its role as a variable to any useful extent. Time budgets have received attention on a number of occasions as pointed out by Jacoby et al. (1976). Allocation of time under a variety of conditions has been the focus of the studies reviewed in this excellent summary by Jacoby et al. Specifically, these studies have considered the use of time in the decision making process. One study by Steufort and Steufort reported by Jacoby et al. indicated that risk taking increased with the amount of time spent in decision making.

Jacoby et al. (1976) suggested that a vocabulary of time terms be established to facilitate communication about the research related to time. They suggested three time aspects which may be used to construct a typology of time phenomena. These aspects were time points, time spans, and time intervals as defined below:

> Points--cross sectional instants at which events take place
>
> Span--used to denote the duration of a phenomenon
>
> Interval--the amount of time that elapses between two equivalent points or spans

They further developed just such a typology for illustrative purposes. The natural next step in time research was to develop these ideas further.

Wright and Weitz (1977) established a typology of five time horizons:

Immediate processing horizon--time to be spent on information processing

Horizon to commitment--time left before commitment takes place

Outcome horizon--time left before outcomes begin

Suspense horizon--time expected between choice and outcomes

Duration-of-outcomes horizon--length of time benefits are expected to last

Particularly germaine to this dissertation is their "outcome horizon" defined as "the time he (the consumer) believes will elapse before he can experience the outcomes caused by his eventual choice." A "purchase intention horizon" was proposed in another study (Gaulden, 1978) and defined as the "consumer's current view of when he next expects to purchase a given product." This is consistent with the Wright and Weitz typology and is more specific.

Integration of Constructs

Self-images and perceived risk have been fairly well researched. The existence of the construct time is not seriously questioned. The interrelationships of these constructs is of central importance to this study. The hypotheses to be considered predict several of these relationships. That this is not haphazard, but based upon reasonable theoretical implications, is demonstrated in this section. The appearance of each construct in literature devoted to the other constructs is reviewed for implications of these relationships.

Of the studies considered above, nearly all have implied or stated that aspects of perceived risk are located in and function within the context of the individual's cognitive structures. In addition, most of the studies have implied or stated that perceived risk was in some way associated with the self or the self-image. This connection will be discussed below.

Images in Risk Literature

As early as Bauer (1960) the risk literature considers that brand loyalty may serve the function of risk reduction. His contention was that such a phenomenon did not involve self-image, as had earlier been supposed. It is the contention of this dissertation that these are not competing explanations of brand loyalty, but are complementary explanations. Image matching is risk reduction in this sense.

Cunningham (1967) illustrated that a generalized tendency does exist in risk perception and was able to relate this tendency directly to specific self-confidence--a self-image phenomenon. Gergen and Bauer (1967) found that self-esteem and perceived risk were related in a peculiar way. Persons high in self-esteem (operationally similar to high self/ideal congruence according to Wells and Marwell, 1978) perceived very little risk in their decision making capability and hence felt no pressure to conform to social expectations. Persons low in self-esteem (low

self/ideal congruence) were fairly fatalistic in their consumption behavior. They did not conform because they saw no benefit in so doing. Medium self-esteem types, however, sought information to reduce risk, and consequently exhibited a great deal of conformity behavior. These same kinds of relationships were found by Arndt (1967) who was using the high and low risk perspective rather than the high and low self-esteem perspective. This convergence from the two approaches is certainly suggestive.

Popielarz (1967) suggested that one of the reasons for consumers seeking out and trying new products in spite of the high perceived risk entailed is dissatisfaction with the current self-image (low self-esteem).

Peter and Tarpey (1975) go so far as to link the social and psychological risk types to the consumer's self-image and reference group image. Indeed, the concepts of social and psychological risk directly imply the operation of the self-image as a balancing mechanism. Zigli et al. (1978) concluded that perceived social risk was the most important type of risk. This certainly suggests the proposed link between self-image and perceived risk types, in particular social risk.

Schaninger (1976) demonstrated the relationship between some personality measures and perceived risk measures. This recalls Markin's (1974) discussion of the relationship of personality to self-image discussed earlier and

suggests a very close relationship of perceived risk to these phenomena.

This short consideration has demonstrated that the risk literature has used the self-image in explanations on a number of occasions and for a variety of purposes. The differences in these explanations is not an important issue in this study. The links themselves are what count. Researchers have also taken the opposite approach, relating risk to the image literature.

Risk in Image Literature

This dissertation proposes that high image congruence consumers perceive less risk than low image congruence consumers on both the self/product and ideal/product constructs. There are implications of such relationships in the image literature as well as in the risk literature. This section will look at some of these implications which have never become hypotheses until the present study.

In their discussion of symbolic interactionism and self theory, Grubb and Grathwohl (1967) specify that the congruence of the individual's self-image and the product-image is largely a function of the consumer's belief that the product exhibits the correct social symbols. This implies that risk in the social sense is related to the consumer's uncertainty about social symbol matches. This implication is precisely the conceptualization used in this

study. It is suggested that the inaccuracy of the matching process is the cause of risk perception.

Dolich (1969) assumed that a person's behavior was determined by his perception of the similarity of environmental stimuli to himself (the matching process). He found that socially consumed products in particular required congruence (minimization of social risk). Hughes and Guerrero (1971) were concerned with "social congruity," again implying the existence and association of social risk to the matching process. Landon's (1974) typology seems to imply differential associations of image dimensions with social and psychological risk types.

The studies reviewed have primarily suggested social risk. This is one of the types considered in the present study. It is interesting to note the implication that matching occurs in a social context, and that other factors are much less present. This does not, however, preclude the existence of other risk types. It only ignores them. In fact, the suggestion of social risk is only inferred by the writer, not expressed by the researchers involved.

Time in Image and Risk Literature

Most of the hypotheses of the dissertation involve purchase intention horizons. This supposes that time is present throughout these relationships. The consideration of time in these two literature traditions is sparse, but a few studies have explicitly considered this variable.

The study by Sheth and Venkatesan (1971) reviewed in the risk literature section included an observation of prepurchase deliberation as a risk reduction strategy. They found that high-risk consumers deliberated longer (used more time in the risk reduction activity). This implies a relationship between time, its use, and perceived risk.

Wright and Weitz (1977), as mentioned earlier, introduced the concept of time horizons into the literature. They also found that time horizon differences are associated with evaluation strategies through their influence on the perception of risk. They found that consumers faced with the immediate necessity of making a product related decision with high risk involved perceived significantly more risk than those consumers who had more time to deliberate. This directly implies the purchase intention horizons considered earlier (Gaulden, 1978) and in the present study.

Settle et al. (1978) considered the time orientation (past, present, or future) of the individual. In particular, they related time orientation to generalized risk perception. They found that past oriented respondents were high-risk and future oriented respondents were low-risk perceivers. The dissertation proposes that high-risk perception is related to more perceptual postponement than low-risk perception. This would seem to be at variance with the results achieved by Settle et al. However, it

must be remembered that their study dealt with time orientation, and not time perception.

Setting for the Dissertation

The findings and implications of the literature of both perceived risk and self-image more than justify an attempt to analyze the nature of the relationship between the two constructs. Although there is no well established tradition of time literature, Wright and Weitz (1977) have definitely indicated that outcome horizons and perceived risk are related and a relationship was found between image congruence and the differential effect of purchase intention horizons in another study (Gaulden, 1978).

Relationships between perceived risk, self-image, and time do exist. Research to date indicates the existence of the relationships and even implies that these relationships, particularly between image and risk, may be central to an understanding of some consumer behavior phenomena.

The conceptualization presented in the first chapter and the literature reviewed in this chapter will provide several hypotheses to be tested. The results will be used to make inferences about the proposed relationships between the various constructs.

CHAPTER III

DESIGN OF THE STUDY

This chapter considers the specification of the relationships discussed in the first two chapters. A model is constructed and formalized. Specific hypotheses are formulated to test the model. Next, a field study is designed to collect data to be used in testing the hypotheses. Issues of reliability and validity related to the research instrument used in the study are discussed. The chapter is organized as follows:

1. Risk and Self-image in Consumer Behavior Models
2. Definitions To Be Used
3. Proposed Relationships
4. The General Model
5. Hypotheses
6. Operationalizations
7. Methodology
8. Instrument Reliability and Validity

Risk and Self-image in Consumer Behavior Models

At present there are no formal structures that specify the relationships which are of interest in this dissertation. In fact, the concepts of self-image and

perceived risk, while important to some presentations in consumer behavior, are not explicated in the formalized models. Most texts discuss the concepts, particularly perceived risk. However, the relationships of interest to the present effort are not considered.

The literature reviewed in the last chapter often assumed or implied the relationships, but in no case have they been established through empirical research. It is not within the scope of this dissertation to construct a new theory of consumer behavior, so a complete formalization of the relationships will not be attempted. However, it is very likely that the relationships being investigated could be used in such an attempt; or in the major revamping of some existing models. Any such attempt would surely position the self-image at the center of the model. The dissertation may provide that core.

The Engel, Blackwell, and Kollatt Model

Engel, Blackwell, and Kollatt (1978) do not specifically deal with the self-image in their consumer behavior model. The concept is subsumed in their rather general discussion of life style (pp. 173-210) in which personality is given some part as a moderating variable, or perhaps an intervening variable. Their section on the search process (pp. 238-258) makes extensive use of perceptual or cognitive phenomena without specifically mentioning the consumer's self-image as a reference framework.

Perceived risk is more specifically dealt with in the discussion of the model. In particular, one of the reasons the consumer engages in external search is to reduce perceived risk. This is certainly consistent with the research reviewed earlier on perceived risk.

The Markin Holocentric Model

Markin's Holocentric model (1974) contains a field of intrapersonal variables which is essentially synonymous with the cognitive structure of the individual. This cognitive structure is indeed the focal point of Markin's effort. In the context of this field, Markin discusses the self-image and implies a central role for the individual's concept of himself. He does not, however, consider the ideal self-image in his work. In addition to the self-image, Markin also considers a matching process. It is unfortunate that the overall model presented by Markin (p. 99) is not what his text discusses. Because of this condition, the reader is forced to infer anything beyond what has already been said here.

While perceived risk is not included in the formal model, even in the expanded analysis of the decision process section, it is discussed at some length in conjunction with information processing. In fact, Markin's position is that information processing is simply the risk reduction process (pp. 530-531). This is certainly consistent with the treatment of risk reduction in the research reviewed

earlier. Markin even goes so far as to break perceived risk down into types such as performance, psychosocial, money, time, and so forth. Note that this typology is consistent with the Peter and Tarpey (1975) typology and precedes it.

It was reasonable that Markin should include the variables of interest to this dissertation since his is a cognitive approach to consumer behavior. Other models consider cognitive phenomena only when necessary. It is important to note, however, that even in the Markin formulation there is no specific link between the self-image and perceived risk. This is unfortunate since the implications of this relationship have great potential in a cognitive explanation of the consumer choice process. It is just such a link that the present study is attempting to establish.

Definitions To Be Used

The definitions used in this study will not be unique, but are derived from definitions in the literature. In order to avoid the semantic confusion surrounding self-image and self-concept, the two terms will be considered synonymous, as is done in most studies anyway, and the term self-image will be used. Rationale for this decision was discussed in Chapter I. Ideal self-image will be treated in a precisely analogous manner. These definitions follow:

SELF-IMAGE (S)--the individual's perception of himself as an object.

IDEAL SELF-IMAGE (I)--the individual's perception of what he aspires to be as an object.

PRODUCT-IMAGE (P)--the individual's perception of the symbolic meaning inherent in a product.

Congruence will be simply defined as the degree of overlap between two images. This gives rise to the following definitions.

SELF/PRODUCT-IMAGE CONGRUENCE (SP)--the degree to which the individual's perception of himself and the symbolic meaning inherent in a product overlap in his perceptual space.

IDEAL SELF/PRODUCT-IMAGE CONGRUENCE (IP)--the degree to which the individual's perception of his aspired self-image and the symbolic meaning inherent in a product overlap in his perceptual space.

The perceived risk definitions are somewhat more complex to construct because of the two aspects of risk discussed earlier: perceived consequences and perceived consequence salience. Therefore, these definitions will be two dimensional.

PERCEIVED ECONOMIC RISK (PER)--the perception of economic consequences associated with purchasing a particular product and the salience (importance) of those consequences to the individual.

PERCEIVED SOCIAL RISK (PSR)--the perception of social consequences associated with purchasing a particular product and the salience (importance) of those consequences.

PERCEIVED PSYCHOLOGICAL RISK (PPR)--the perception of psychological consequences

associated with purchasing a particular product and the salience (importance) of those consequences.

The time variable used in the study is straightforward. An outcome horizon called the "purchase intention horizon" will be used.

PURCHASE INTENTION HORIZON (PH)--the span of time perceived by the individual to exist before the next (first) purchase of a given product.

From these basic working definitions will be constructed all of the operationalizations needed to investigate the relationships between self-images, perceived risk, and time horizons. Specific relationships which involve these constructs will be discussed next.

Proposed Relationships

The relationships to be considered in this study have all been alluded to earlier. Therefore, a summary should suffice at this point. The objectives of the dissertation are the following:

1. to analyze the relationship between self-image and ideal self-image across a group of products, across time, and as this relationship relates to risk,

2. to investigate the relationships of the three types of risk (economic, social, and psychological) and overall risk to images, to products, and to time perception; and,

3. to investigate "overall" relationships which might aid in the interpretation of image and risk perception phenomena.

The first type of relationship is image-to-image

congruence. There are three of these congruence relationships: (1) self/product-image (SP) congruence, (2) ideal self/product-image (IP) congruence, and (3) self/ideal self-image (SI) congruence. In the review of image literature in Chapter II, it was demonstrated that these first two relationships are well established (in particular the SP relationship, but also the IP as well). In the later studies by Landon (1974), Belch and Landon (1977), and Belch (1977) these relationships are assumed, as they are in the present effort.

The third relationship in this group, self-image to ideal self-image, will be measured analytically using the results of the other two congruence relationships. This relationship will be considered in an overall sense, on a product-by-product basis, across various time horizons, and as it relates to perceived risk. Specific hypotheses will be constructed to analyze these various interactions.

There is some indication in the literature that social and psychological risk types may be essentially the same thing, or that there is a psychosocial risk type. In fact, in some cases this is the form used (Arie and Wong, 1978, and Markin, 1974). An attempt will be made to distinguish between the two, if possible, or to integrate them as Markin and others have done. Simultaneously, economic risk (economic, financial, monetary) will be related to social and psychological risk types. It is expected that this relationship will vary from product to product. The

three risk types will also be considered across time categories and in conjunction with the image congruences discussed above. Hopefully, tentative inferences will be available concerning image matching and perceptual postponement as risk reduction strategies. Overall risk will be modeled through regression analysis and analyzed in the same way as the individual risk types.

Finally, some simultaneous analyses will be performed to distinguish "overall" effects. Consumer "types" will also be investigated and possible speculation on marketing implications will be included, if the results warrant such an effort at this point.

The proposed analysis will represent a major survey of the relationships between images, risk, and time in the form of purchase intention horizons. Ownership will also be included to ascertain its influence on the various proposed relationships.

The General Model

Due to the exploratory nature of the study and the lack of previous attempts to examine these relationships, modeling is somewhat difficult. For this reason, a graphic attempt will not be made at this point. The model will be explicated in functional form only at this time. It is expected that further research based on the findings of this study will make more specific explication and explanation

possible. For now, however, the effort will remain in general form.

The following kinds of assumed functional relationships are stated. Exhibit 3-1 contains the terms used in the model.

$$PHX = f_1(1/SPX) ,$$

$$PHX = f_2(IPX) ,$$

$$PHX = f_3[corr\ (SPX,IPX)] ,$$

EXHIBIT 3-1

SYMBOLS USED IN THE MODEL

SPX	Congruence of self-image to product-image for product X
IPX	Congruence of ideal self-image and product-image for product X
PERX	Perceived economic risk associated with product X
PSRX	Perceived social risk associated with product X
PPRX	Perceived psychological risk associated with product X
PHX	Purchase intention horizon for product X
OWNX	Ownership status with respect to product X
MPRX	Calculated perceived risk associated with product X
PRX	Reported overall perceived risk associated with product X

$$PHX = f_4(OWNX) ,$$

So:

$$PHX = f\ [1/SPX,\ IPX,\ corr(SPX,IPX),\ OWNX] \qquad (1)$$

These statements are rather straightforward: purchase intention horizons are a function of (1) the inverse of the self/product congruence, (2) the ideal/product, (3) the relationship between the first two constructs, and (4) ownership. These relationships are all monotonically positive and dynamic.

By definition:

$$PRX = g_1(PERX,PSRX,PPRX)\ , \qquad (2)$$

where PRX represents overall perceived risk for product X. This part of the model is general rather than specific since there are other risk types and since a simple addition would present scaling problems (even though monotonicity would be preserved). The form of the model will be determined in conjunction with the testing of hypotheses related specifically to overall perceived risk.

Perceived risk is related to purchase intention horizons in the following way:

$$PHX = f_5(PRX). \qquad (3)$$

Finally, relating perceived risk to self-images requires the following functional forms:

$$PRX = g_2(1/SPX)\ ,\ \text{for any PHX},$$

$$PRX = g_3(IPX)\ ,\ \text{for any PHX},$$

$$PRX = g_4(OWNX)\ ,\ \text{for any PHX, and}$$

$$PRX = g_5[corr\ (SPX,IPS)].$$

These relationships can be summarized in a manner analogous to equation (1):

$$PRX = g\,[1/SPX,\ IPX,\ corr(SPX,IPX),\ OWNX] \qquad (4)$$

This relationship is static rather than dynamic, as all of the other relationships have been. They can, however, be converted to dynamic form rather simply by changing them to difference functions on both sides of the equation. This will preserve the general form of the functions and make it amenable to the rest of the model and the analysis.

Finally, the following functional form is constructed from the hypothesized relationships in the next section.

$$PHX = f_1(1/SPX),\ f_2(IPX),\ f_3[corr(SPX,IPX)],\ f_4(OWNX). \qquad (5)$$

This form of the model implies two things. First, it implies that the purchase intention horizon is related to all the other variables being considered. In other words, it implies that time perception is related to the relationships among other variables. Second, it implies that ownership is extremely important to the perception of future purchase events, which seems obvious. However, the model includes ownership in three distinct places: separately, and in each of the self-image and ideal self-image functions. This last statement is true if self-image and ideal self-image are influenced by ownership.

One final implication of the model is that perceived risk is intermediate between image matching and horizon perception. Conceptually, the image matching process determines the degree and nature of perceived risk, which in

turn determines the purchase intention horizon. With the formal model now in hand, it is time to focus attention on the hypotheses of the study.

Hypotheses

Hypotheses will be constructed to consider a wide variety of relationships among the variables of interest. The hypotheses will be divided into four logical groups which are defined by the relationships and variables specified in the hypotheses. The groups are:

Image Hypotheses	(Hypotheses 1-4)
Ownership Effect Hypotheses	(Hypotheses 5-6)
Perceived Risk Hypotheses	(Hypotheses 7-10)
Focal Hypotheses	(Hypotheses 11-13).

Image Hypotheses

This set of hypotheses will relate to the relationship of congruence relationships to time horizons. Specifically, it is hypothesized that as purchase intention occurs further in the future it (PH) is less congruent with self-image and more congruent with ideal self-image. Furthermore, as intention is further in the future, the ideal self-image gains in importance relative to the self-image. Finally, self/ideal congruence will be considered independently. The Hypotheses are:

H1: The Self-Image Hypothesis: As purchase intention horizon moves from the short-run to the long-run, self/product-image congruence decreases.

H2: The Ideal Self-Image Hypothesis: As purchase intention horizon moves from the short-run to the long-run, ideal/product-image congruence increases.

H3: The Image Change Hypothesis: The absolute rate of change of ideal/product-image congruence will be greater than that for self/product-image congruence.

H4: The Image Time Hypothesis: Self/ideal congruence will be greater in the long-run purchase intention horizon than in the short-run purchase intention horizon for all products and across products.

Ownership Effect Hypotheses

The second set of hypotheses are designed specifically to highlight the influence of ownership on the congruence relationships which were considered in the first set of hypotheses. Basically, the hypotheses state that owners exhibit higher levels of congruence for both self and ideal self-images and product-images. It is also hypothesized that ownership brings about greater integration of the self/product and ideal/product relationships. The hypotheses are:

H5a: The Owner-Self Image Hypothesis: Owners will exhibit more self/product-image congruence than will nonowners for all products and acrosss products.

H5b: The Owner-Ideal Self Image Hypothesis: Owners will exhibit more ideal/product congruence than will nonowners for all products and across products.

H6: The Owner-Time Hypothesis: Owners will exhibit greater self/ideal congruence than will nonowners for all time horizons, for all products, and across products.

Note that the Owner-Time hypothesis includes two of the constructs involved in the study: images and intention horizons.

Perceived Risk Hypotheses

The third set of hypotheses is constructed to analyze the relationships of perceived risk to purchase intention horizons. It is hypothesized that each type of risk, as well as aggregate risk measures, will diminish in magnitude as purchase intention horizon increases. The hypotheses include each risk type separately, as well as overall risk. The hypotheses are:

H7: The Economic Risk Hypothesis: Perceived economic risk will be less in the short-run purchase intention horizon than in the long-run purchase intention horizon for each product and across products.

H8: The Social Risk Hypothesis: Perceived social risk will be less in the short-run purchase intention horizon than in the long-run purchase intention horizon for each product and across products.

H9: The Psychological Risk Hypothesis: Perceived psychological risk will be less in the short-run purchase intention horizon than in the long-run purchase intention horizon for each product and across products.

H10: The Overall Risk Hypothesis: Overall perceived risk will be less in the short-run purchase intention horizon than in the long-run purchase intention horizon for each product and across products.

The Overall Risk hypothesis will be applied to both reported risk and risk calculated from the risk model to be constructed in Chapter IV.

Focal Hypotheses

The final set of hypotheses relates images and risk specifically. These are the central hypotheses of the study. Perceived risk levels will be considered in light of image congruences. It is hypothesized that the relationship between self-image/product-image congruence will be inverse. The relationship between each perceived risk type and ideal/product congruence will also be inverse. The hypotheses are:

H11: The High Self Congruence Hypothesis: High self/product congruence consumers will perceive less of each type of risk than will low self/product congruence consumers for each product and across products.

H12: The High Ideal Congruence Hypothesis: High ideal/product congruence consumers will perceive less of each type of risk than will low ideal/product congruence consumers for each product and across products.

Finally, ownership will have the effect of reducing all types of perceived risk for high self/product congruence consumers.

H13: The Self Congruence Owner Hypothesis: High self/product congruence owners of products will perceive less of each type of risk than will low self/product congruence owners for each product and across products.

Ideal/product congruence will not be tested in the same way because of the lack of clarity in the nature of the relationship from an a priori point of view.

Operationalizations

Self-image and ideal self-image are assumed to

exist. Congruence relationships between self-image and product-image have been extensively demonstrated in the literature and it will be assumed (see Landon, 1974) that respondents can report these relationships directly. Therefore, they will not be inferred, but will be measured directly by statements of the following type:

A person who uses product x is like me.

1 2 3 4 5 6 7

where a scale value of "7" represents "strongly agree" and a scale value of "1" represents "strongly disagree."

Similar reasoning follows for the ideal self-image and product-image congruence relationships:

A person who uses product x is like I want to be.

1 2 3 4 5 6 7

where the scale values have the same interpretations as in the self-image discussion above.

The problematic nature of risk definitions shows up in the operationalizations. There are two scale items for each type of risk for each product. The first item deals with likelihood of negative consequences and the second with their salience. There are, therefore, six separate operationalizations, as follows:

PERCEIVED ECONOMIC CONSEQUENCES (PERCON):

It is probable that if I purchase a product x, it will lead to economic (monetary) loss for me.

PERCEIVED SALIENCE OF ECONOMIC LOSS (PERSAL):

If this economic loss happened to me it would be important.

(PSRCON): It is probable that the purchase of product x would lead to a social loss for me because people important to me would think less of me.

(PERSAL): If this social loss happened to me it would be important.

(PPRCON): It is probable that the purchase of product x would lead to a psychological loss for me because it would not fit well with the way I think about myself.

(PPRSAL): If this psychological loss happened to me it would be important.

These operationalizations were adapted from those constructed by Peter and Tarpey (1975) and used by Arie and Wong (1978). Each is accompanied by a seven-point "agree"-"disagree" scale. In all cases a scale value of "1" represents "strongly disagree" and a scale value of "7" represents "strongly agree." In order to construct the variables of interest to the study, it will be necessary to multiply the consequence probability by the consequence salience and scaling this back down by dividing by the "mean" value.

$$PER = \frac{2 \times PERCON \times PERSAL}{PERCON + PERSAL}$$

$$PSR = \frac{2 \times PSRCON \times PSRSAL}{PSRCON + PSRSAL}$$

$$PPR = \frac{2 \times PPRCON \times PPRSAL}{PPRCON + PPRSAL}$$

This assumes interval scaling for the perceived risk variables. This assumption is also needed for the risk model.

Overall perceived risk will be included as well. Operationally, this overall risk will be composed of the three risk types and will be used to construct a regression model of risk.

The purchase intention horizons are operationalized as follows:

> When do you next (first) expect to purchase product X?

SOON	NOT TOO DISTANT FUTURE	FUTURE	DISTANT FUTURE	NOT SURE	NEVER
1	2	3	4	5	6

SHORT-RUN LONG-RUN

The nature of the "Not Sure" and "Never" categories is problematic and will be dealt with later. At this point, all of the variables needed for the analysis have been operationalized except ownership. This operationalization will be straightforward. Respondents will simply be asked whether they currently own or have recently owned the product in question. The response to this question of recent ownership is perceptual. If the respondent does not perceive any past instances of ownership as recent, then for purposes of the inference to be performed, he has not. The actual time since ownership is not in question, since recency takes on this perceptual flavor.

Exhibit 3-2 presents a key to the acronyms used in this section.

EXHIBIT 3-2

KEY TO SYMBOLS USED

PERCON	Perceived economic consequences
PERSAL	Salience of perceived economic risk
PSRCON	Perceived social consequences
PSRSAL	Salience of perceived social risk
PPRCON	Perceived psychological consequences
PPRSAL	Salience of perceived psychological risk
PER	Perceived economic risk
PSR	Perceived social risk
PPR	Perceived psychological risk
SP	Self-image to product-image congruence
IP	Ideal self-image to product-image congruence
PH	Purchase intention horizon

Methodology

Both the image and risk literature traditions provide ample evidences of wide divergence in research technique, instrumentation, and data analysis. It seems, however, that there are some basic similarities that can be capitalized upon for the conduct of this particular study. The later studies in each tradition (Landon, 1974, and Peter and Tarpey, 1975) will be adapted to the extent possible.

The requirement of internal consistency in the

instrumentation will also be examined to the extent possible. This requirement has already been demonstrated in the operationalizations presented in the last section. Compared to the present study, the research reviewed in Chap-II was not as broad in scope, nor as inclusive in types of variables, so that the compatibility issue has not arisen in the research before. To the extent possible, the following research has preserved the "flavor" of the existing traditions while bringing about the compatibility and streamlining necessary for the current research. Some of the effects of the necessary modifications will be discussed later in this chapter in the reliability considerations.

The Questionnaire

The operationalizations provided earlier will be used in the questionnaire. The design will require over 100 attitudinal responses. It is felt that this large number of responses requires as much streamlining of the questionnaire as possible. Various aspects of this streamlining will be discussed as they are encountered. The constructs used and their operationalizations have already been discussed. All that remains is the selection of products to be used on the scales and a brief explanation for the scale width.

The products chosen for the study had to meet three basic criteria. First, the products must be relevant to

the sampled population. Second, the products should be diverse in terms of such attributes as price and the nature of usage. Since the study is exploratory, it is desirable to be inclusive of such a diversity in order to enhance the generalizability of the study and to explore relationships across a wide range of products. As will be seen below, the products range from deodorant to sports cars. These first two criteria are somewhat subjective in their interpretations and implications. The third is much more objective.

The third and most important criterion is that the products chosen for inclusion in the study should have appeared in related studies in both the image and risk literatures. This is important, since the results of this study will be compared with results of earlier studies. Since the two separate streams of research are being brought together, it is necessary to demonstrate consistency with the older traditions. Fortunately, both traditions have used similar product groups in a number of studies.

The following group of products which meet the above requirements will be used:

headache remedy	color TV set
coffee	sports car
35mm camera	cologne
formal clothing	beer
deodorant	mouthwash

Three of these products have been modified for inclusion in the study. Previous studies in both image and risk literature have used cameras, but not 35mm cameras. The image lierature has included automobiles, but not sports cars as a product class. In both cases it is desirable to "upgrade" the product classes somewhat to tap the middle-class nature of the sampled population. The third product, formal clothing, has not been included directly in any previous study. However, dress shirts (Landon, 1974) and suit of dress clothes (Zigli et al., 1978) have. Formal clothing is a unisex designation which should relate to both of the examples given.

Note that ten products were chosen for the study. It has been found by the researcher that inferential problems may result when too small a number of products is used in this type of study (Gaulden, 1978). Of course, some parsimony must be exercised since the number of scales involving all ten products is so large. The number ten seems to be a good compromise between the two criteria, allowing enough data for analysis and being of a manageable size from a response point of view.

Scaling

Seven point scales will be used throughout for all three risk types and for both types of image congruence. The scales will be presented in the following order using the operationalizations presented earlier:

self-image/product-image

ideal self-image/product-image

perceived economic risk

perceived social risk

perceived psychological risk

purchase intention horizons

overall perceived risk

Similar scaling has been found in both the image and risk literatures (Landon, 1974, and Zigli et al., 1978). The format of the risk scales includes placing the consequence and salience items side-by-side. This means placing the two seven point arrays side-by-side.

Ownership will also be placed on a scale, in this case a three point scale. The points will represent non-ownership, current ownership, and recent ownership. Accompanying this will be a one item scale of product usership. This is provided as a check on the ownership factors, the rationale being that a family may own a product which a particular respondent may not use.

Several demographic variables will be included at the end of the questionnaire. These will be:

sex

marital status

education

occupation

family income

These variables will not be used in the conduct of the dissertation. However, they should provide some useful information for follow-up analyses.

Analysis

Self/product and ideal/product congruence will be measured directly by the respondent's responses to the scale items. Other congruence relationships will be derived from these two by correlational and partial correlational analysis. The normality assumption has been invoked to allow the calculation of risk types (see p. 72). Therefore, the Pearson product moment correlation coefficient will be used throughout. This statistic possesses the property of being amenable to the calculation of partial correlation coefficients which are testable under the normality assumption. The actual procedure will be discussed in Chapter IV.

Several hypotheses will require partitioning the data. Short-run and long-run intentions will be constructed for each product in which the first four points on the purchase intention horizon scale will be collapsed into two groups (short-run composed of the soon and not too distant future categories and long-run composed of the future and distant future categories). "Mean" risk values will then be compared for significant differences.

An analogous partitioning technique will be used for

constructing groups of "high" and "low" congruence consumers for testing the last group of hypotheses.

The Sample

The sample used in the study consisted of 189 white, adult males and females who reside in Baton Rouge, Louisiana. Several criteria were used in the sample selection process: age, race, and area of residence. Age was controlled by specifying a minimum age of 18 years for all respondents. Race and place of residence are very highly correlated in the sampled city. However, it was deemed necessary to build in separate controls (this is fortunate, since three non-white respondents showed up in the sample). The reason for the criterion of area of residence was to obtain a sample which consisted of white, middle class respondents. The selection process consisted of three stages: selection of geographic area, selection of streets in the areas, and selection of respondents (by address). These stages are described below. The actual conduct of the field work is also described.

1. Selection. As mentioned, the selection of the sample involved three stages: selection of geographic area, selection of streets, and selection of addresses (and consequently of respondents). The first stage, selection of geographic areas to be surveyed, was accomplished through the use of published Bureau of the Census (1970) records for the city. Census tracts were selected

based on two criteria: average family income and racial composition. Tracts of high average family income and high racial homogeneity were sought out. This procedure was undertaken to assure social homogeneity to the extent practical. Seven census tracts lying on the eastern and southeastern sides of the city were selected through this process. With reasonable homogeneity fairly assumed, the next step was undertaken.

The second stage was the selection of specific streets within the census tracts selected in the first stage. This stage was a random selection of streets. The purpose was to avoid concentration in any specific neighborhoods or subdivisions, so that the tracts would be well represented in the sample.

The final stage of the selection process was the selection of respondent addresses from the Polk's City Directory (1978). Of the data sources available, this directory was considered to be the most complete and reliable for the study. Streets were divided into groups of from 15 to 25 addresses, and names were selected at random from each list of from 15 to 25. This produced a random sample from selected geographic areas. The randomness was modified by the exclusion of black respondents. Otherwise, any respondent living in a given census tract and with a telephone number listed in the City Directory (Polk's, 1978) had an equal chance of being included in the sample.

2. Field Work. The field work was conducted in three phases: telephone contact, questionnaire delivery, and questionnaire pick-up. The first phase, telephone contact, was conducted for two purposes: to insure accuracy in the sample designation and to establish appointments for the delivery of the questionnaires. Once these appointments were made, the next phase of the field work could be undertaken. Each field worker contacted three respondents in this endeavor so that any reasonable arrangements could be made with the respondent. Field workers were students in the consumer behavior course at Louisiana State University. The students were rewarded with a course grade component and were debriefed at the end of the data collection phase.

The second phase was the actual delivery of the questionnaires to the homes of the respondents who were contacted in the first phase. The questionnaires were hand delivered at an agreed upon time. At this time, pick-up arrangements were made. Respondents were presented with three options for pick-up. If they so desired, the field worker stayed with them while they completed the questionnaire. Another option was to have the field worker return at some later specified time for the questionnaire. The last option was to have the respondent mail the completed questionnaire to the researcher in a stamped pre-addressed envelope provided to whichever respondents desired to

exercise this option (about 20 respondents did so). Thus, the third phase was completed.

The sample consisted of 216 respondents who agreed to complete questionnaires. A total of 189 questionnaires returned were useful in the analysis, resulting in a response rate of 87.5 percent. Some questionnaires were not returned. Some were not completed, and some were completed by individuals not meeting the criteria specified above. The data from the 189 eligible respondents were subjected to the analyses discussed in the last section. Results of the analysis are discussed in the next chapter. However, before proceeding with the analysis, it is necessary to deal with two important issues not mentioned before this point. These are reliability and validity of the instrument used.

Instrument Reliability and Validity

Jacoby (1976) has suggested that marketing academicians in general--and consumer behaviorists in particular--need to take some time out to consider what is being done in their research. His basic contention with the discipline is that marketers too often rely on unreliable and invalid techniques in their research. Jacoby is not alone in this criticism. The call for reliability and validity considerations in marketing research efforts has recently been highlighted in a special issue of the Journal of Marketing Research (February 1979). The issues of

reliability and validity are appearing in other organs of the American Marketing Association and is more and more often included in the proceedings of conferences of various marketing groups.

These two concepts--reliability and validity--are separate but highly related issues, much like accuracy and precision in the physical sciences. Nunnally (1978) defines reliability as "the extent to which measurements are repeatable" (p. 191). Repeatability implies a relative freedom from error. The smaller the amount of error, the more consistent will be the results of repeated measurements of a given construct. Validity is defined by Nunnally as the degree to which an instrument "does what it is intended to do" (p. 86). The relationship between the two is that if a measure is valid it must of necessity be reliable. If it measures what it is intended to measure in one setting, it should measure the same construct to the same extent in another setting. Thus, reliability is a necessary condition for validity. Reliability is not, however, a sufficient condition for validity.

The Scale

Before discussing the reliability and validity issues in the current study, there is a singularly important issue to be dealt with: the nature of the scale itself. Psychometric theory (Nunnally, 1978; Guilford, 1954) and educational measurement theory (Nunnally, 1959; Thorndike,

1971) are both concerned with "multi-item" scales. In other words, these areas are concerned with composite scores derived from a series of items which correspond to various aspects of the construct. The sum (or some other composite) derived from these items is the score of interest to researchers in these areas. The items themselves are of no consequence--so long as they contribute to the measurement of the construct under investigation.

Marketing researchers have become concerned with multi-item scales. In fact, Peter (1979) has recently written a very useful paper on reliability in which he specifically excluded single-item scales. Indeed, Jacoby (1978) has recently argued cogently that the nature of marketing research and its subject constructs is so complex that we ordinarily cannot think of using single-item measures. Peter provides two very good arguments for this position. First, multi-item scales (may) allow measurement errors of various types to cancel out, thus providing measures of scale reliability which are larger in magnitude (and perhaps more accurate). The second argument is that multi-item scaling may be necessary when investigating constructs which are very complex.

The present effort involves the use of single-item scales. The attempt is not to infer how well a consumer's self-image and the image he possesses of, say, beer match one another. Rather, the consumer is asked to report how

well these images match. The same holds true for each of the scales in the instrument. Thus, congruences are not being measured per se; they are being asked for, under the assumption that the consumer can report them. The same holds true for risk components. The ability of the consumer to report these phenomena has been demonstrated adequately in the literature reviewed in Chapter II. Assuming that the constructs exist and that consumers can report them, a new set of relationships between them is being explored. It is felt by the author that the current instrument design measures the same constructs as the instruments they were patterned after and simultaneously introduces an element of consistency into the measurement. In addition, it is felt that the current instrument is equally as reliable and valid as those used by Landon (1974) and Peter and Tarpey (1975).

Attention will now be turned to the issues of validity and then reliability. These issues will be explored, keeping in mind the single-item nature of the present instrument.

Validity

Nunnally (1978) states that there are three kinds of validity: predictive, construct, and content. Each of these will be examined in the context of the research instrument designed for this dissertation.

1. Predictive Validity. Predictive validity is

concerned with how well the instrument predicts some phenomenon which is external to the instrument itself (such as a behavior or the results of another instrument). This type of validity is highly sensitive to reliability (or stability). If the researcher could provide a series of items which could be relied on to measure the degree of congruence between a subject's self-image and his image of a product (e.g., sports car), the scale item in the present research instrument could be used to predict the results derived from such a measure. Comparison of results would provide an indication of the predictive validity of the current scale item. However, at the present time, there is no such series of items. Even if there were, it would prove very difficult to prove their own validity.

The issue of predictive validity cannot be dealt with within the scope of the current study. Further research might be conducted which would attempt to break down the multidimensionality of self-image and product images and separately measure the respondent's perception of the degree to which the product and the respondent himself was represented by each dimension, thus arriving at a composite measure of both images and their overlap. This composite measure (a multi-item measure) could then predict the single item in the current study. Of course, the measures of the dimensions would have to be validated and tested for reliability. This issue of instrument validation could be

the subject of another dissertation or a programmed series of studies.

2. Content Validity. The second type of validity, content validity, is concerned with the extent to which the measure is inclusive of the domain of the construct being measured. Nunnally states that content validity questions are usually settled in logical--rather than statistical--ways. If a researcher desires to know how many years of formal education have been completed by a respondent, he may simply ask the respondent how many years of formal education he has completed. It is difficult to conceptualize a series of questions which could provide a better estimate from the respondent himself. The items in the present instrument fall into the category of the formal education question. The instrument asks the respondent to provide, for example, a summary estimate of the importance of social risk in the purchase of mouthwash. The attempt is not to measure the construct "social risk." Nor is the attempt to measure the extent to which mouthwash contains social risk for the respondent. Rather, it is an attempt to probe the respondent to find out how much social risk he perceives in the purchase of mouthwash.

The term face validity appears in the marketing literature. In fact, it is often the only kind of validity discussed. This concept is related to content validity. The term is used to indicate whether the instrument looks

like it measures what it purports to measure. If a respondent is asked for his gender on an instrument, the one question has face validity (in this case content validity as well). If we ask a consumer how well a product like coffee matches his ideal self-image in his perception, then we have logically exhausted the domain which consists of the consumer's perception of the extent to which his ideal self-image and coffee match one another--regardless of the number of dimensions the consumer has had to consider in the matching process. It is proposed that the single items in the scales used in the instrument possess face validity (even content validity) since they ask for singular perceptions. If the attempt were being made to measure the extent of the congruences, the items would have neither kind of validity and a large number of items would have to be constructed which would be related to the various dimensions involved.

An attempt to establish whether or not face validity was present in the measurement instrument was made. A total of 20 respondents were contacted by telephone by the researcher. This occurred approximately two months after administration of the questionnaire. The purpose of the callback was to assess the nature of interpretations in the respondents by the questionnaire items. In essence, individual items were read to the respondents and their interpretations of the items solicited.

In order to reduce task difficulty somewhat, a scenario was provided for these respondents. They were asked to imagine themselves engaged with the researcher in social conversation. Within that conversation the researcher said "(read item from questionnaire). What would you think I meant by that statement?" If necessary, the stimulus was repeated. However, every effort was made to not lead the respondent. Each respondent was asked to respond to four such stimuli.

The first stimulus was one of the ten items from the self-image congruence scale. The second stimulus was from the ideal self-image congruence scale. The third was a likelihood item from one of the risk scales. The last stimulus was an importance item from the same risk scale as the likelihood item. The risk scales were alternated throughout the process. This alternation was carried out in order to ascertain whether any risk type was more ambiguous than another. Note that any single respondent responded to the likelihood and salience items for a single risk type and for a single product.

The ten products were also alternated throughout the process from one respondent to the next. Each respondent was asked to deal with only one product throughout his four response items. The product used in the items and the type of risk items were, then, systematically alternated from respondent to respondent. For instance, the first

respondent was presented with the first product on self, ideal self, and economic risk items. The second respondent received the second product on self, ideal, and social risk scales.

Responses were taped (with respondents' permission) to be evaluated. Basically, two criteria were used in evaluating the responses: whether the respondent related to the task and semantic content of the response.

Responses were arrayed in a 20(respondents) X 4 (items) matrix. Cell by cell analysis of the matrix revealed five cells where the respondent was unable to relate to the task. Two of such responses appeared in the self-image column. Each of the other three columns exhibited one empty cell. One of the two self-image non-responses was by a respondent who did not use the product and stated that he could not relate to the product. There seemed to be no particular scale bias in the distribution of non-response due to task difficulty.

Only three respondents were involved in the five cases of non-response. Two respondents each had two non-response cells. In one of these two cases, the remaining cells were also judged negative on content. The conclusion of this analysis was that task difficulty was related to individual characteristics rather than scale item differences.

Next, semantic content was judged. The criterion

used here was the appearance of some statement or phrase in the respondent's response which related to the underlying concept as defined in this dissertation. That there was some subjectivity in the process was unavoidable, but objectivity was maintained as much as possible. Further, some aspects of the interpretation of responses are philosophical in nature and would be very difficult to quantify. However, these considerations notwithstanding, the attempt was made.

The first construct considered was the self-image construct. There were 18 useful responses on this construct. Responses were of three types. First, there were references to life-style similarities. Second, there were references to personality similarities. Finally, there were references to shared needs and ownership. Each of these can be related directly to self-image as the term is used in this study. Therefore, it is felt that the self-image scale was appropriately interpreted by the respondents.

The responses to the ideal self-image construct were basically of two types: social aspirations (in which ownership would be instrumental) or simple functional ownership aspirations. With respect to this second type, some respondents who provided this type of response were disturbed over why a person who wanted the product, e.g. deodorant, did not already own it. This response reinforces

the notion of functional aspiration. Of the 19 responses to this scale, 18 (95.0 percent) were consistent with the construct as used in this study.

The third scale was likelihood associated with risk. This item was alternated across the three risk types. Six respondents received the economic risk item. All six related the item to the risk of losing money if the product were purchased. Seven respondents received the social risk item. One of the seven was a non-response cell. Of the remaining six, all related the idea to peer groups and ostracism. Seven respondents also received the psychological item. All seven provided useful responses, all of which related to self-image maintenance. It is interesting to note that two of the respondents followed up by stating that they would not perceive any such risk because they personally liked and used the products.

The final scale dealt with risk salience. As with the likelihood item, this item alternated across the three risk types as well as the ten products. Five of the six economic risk items were useful. Each stated that the risk was important to the extent that the amount of money involved was important. For four of the five items, however, respondents stated that they felt that such risks were trivial because of the small amounts of money involved. For the seven social risk items, all seven respondents related the item to the importance of social acceptance. All

seven respondents to psychological risk items apparently related the item to how an individual feels about himself. There was a great deal of variability in how respondents expressed themselves on this item, but the terms "psychological risk" and "important" appearing in the items apparently acted as referrents--as supposed in constructing the questionnaire.

The results reported above indicate an almost universal ability among respondents to relate the questionnaire items to concepts inherent in the underlying constructs. This, then, provides an implication of face validity. All that is left is the assumption that the respondents' responses are consistent with this link.

One final important consideration should be pointed out. Interpretation of questionnaire items was itself a difficult task for many of the respondents. It is therefore possible that the interpretations provided are somewhat artifactual in nature. There is reason to believe that this task was perceived as more difficult than actually responding to the questionnaire. The near unanimity (94.0 percent) with which this task was completed and the even more imposing level of agreement on meaning across all scales lends considerable support to an argument for the validity of the scales used in the instrument.

Thus, one aspect of content validity, face validity, has reasonable support. The technique used in this study

is itself unproven, however, and further developmental work could be done. Overall, the various scales would seem to meet Nunnally's criterion for content validity, even if tenuously.

3. Construct Validity. The third type of validity, construct validity, "can consist of nothing more than the determination of internal structure and cross structures" (Nunnally, 1978, p. 107). Again, the constructs are not being measured, their perception by consumers is being reported. Thus again, the current instrument is not readily discussed in terms of construct validity.

In the marketing literature, construct validity is often divided into two parts: convergent validity and discriminant validity (see, for instance, Churchill, 1979). Convergent validity is the extent to which a scale correlates highly with another scale which has been designed to measure the same construct, but in another way or another context. Discriminant validity refers to the extent to which a scale does not correlate with a similar scale designed to measure some other construct. As with predictive validity, these types of efforts are the subject of another dissertation or a program of research.

In summary, the issue of validity (of any type) is restricted to the realm of multi-item scales. The present instrument uses only single-item scales. Thus, the current

techniques for ascertaining the validity of an instrument are not applicable in the present case.

Reliability

Peter (1979) discusses three kinds of reliability. They are: test-retest, internal consistency, and alternative forms. Each of these will be discussed separately in terms of their applicability to the current instrument. First, however, it needs to be stated that in the measurement theory literature, test-retest is considered to be a special case of alternative (parallel) forms. (See for instance Nunnally, 1978; Guilford, 1954; Stanlye, 1971).

1. Test-retest Reliability. Of the forms of reliability measurement which have been suggested, the test-retest is most applicable to the current instrument. This method is not recommended by Nunnally (1978) unless a large number of items (he suggests 200) are used since memory might affect the results. There are several other problems related to test-retest correlations which generally have to do with the stability of the relationships involved in the constructs being measured. Peter (1979) recommends that test-retest not be used alone and the method seems to be falling into disrepute in general.

Even though test-retest reliability cannot be measured precisely as designed for a single-item scale, an attempt was made to at least provide indications for the present scale. A sample of 132 students at Louisiana State

University was administered the research scales designed for the dissertation. Various subgroups were administered a one-week retest, the Landon scale, and the Peter and Tarpey (1975) scales. The results of these administrations will be discussed in this section and in the later section on alternative form reliability.

Landon (1974) and Belch and Landon (1977) report one-week test-retest reliability correlations for several of the products used in the current study. The first two sections and the sixth section of the current instrument were modified from their scales. Therefore, a comparison can be made to determine whether the current instrument (see Appendix A) performs as well as the Landon instrument. Table 3-1 contains both the Landon and Belch and Landon test-retest correlations as well as test-retest correlations for the current instrument. The two reports of test-retest reliability are reasonably comparable. Most of the correlations for the present scales are at least as great as the minima reported for the Landon scales.

Test-retest correlations have not previously been conducted for any of the other modified scales used in the present instrument. However, Table 3-2 contains test-retest correlations for the scales as modified for use in the current instrument.

The correlations reported in Tables 3-1 and 3-2 have

TABLE 3-1

COMPARISON OF TEST/RETEST CORRELATIONS FOR SELF/PRODUCT, IDEAL SELF/PRODUCT, AND INTENTIONS

Product	Self/product		Ideal/product		Intention	
	Landon[a]	Present	Landon	Present	Landon	Present
Headache remedy	.70	.74	.70	.59	.70	.60
Coffee	.70	.93	.70	.70	.70	.85
35mm camera[b]	.60	.83	.60	.58	.60	.76
Formal clothing[b]	.70	.76	.70	.55	.70	.59
Deodorant	.60	.61	.60	.51	.60	.27*
Color TV set	.70	.52	.70	.68	.70	.46
Beer	.70	.85	.70	.72	.70	.97
Mouthwash	.70	.62	.70	.57	.70	.77
Sports car[c]		.93		.55		.60
Cologne[c]		.74		.67		.74

Landon, N = 352; Present, N = 67.

[a]Landon (1974) reports $\geq$ .70; Belch & Landon (1977) report $\geq$ .60.

[b]Landon used "camera" and "dress shirt." These two comparisons are at best illustrative.

[c]Not used in Landon study.

*Not significant at .05.

TABLE 3-2

TEST/RETEST CORRELATIONS FOR RISK SCALES
IN CURRENT INSTRUMENT

Product	EC	ES	SC	SS	PC	PS	PR
Headache remedy	.31	.24*	.37	.51	.60	.53	.51
Coffee	.52	.37	.56	.28*	.77	.39	.61
35mm camera	.51	.61	.24*	.50	.53	.35	.67
Formal clothing	.32	.30*	.49	.52	.50	.24*	.51
Deodorant	.01*	.23*	.53	.56	.64	.49	.42
Color TV set	.29*	.48	.54	.44	.57	.47	.43
Sports car	.54	.36	.66	.52	.60	.46	.39
Cologne	.23*	.39	.40	.47	.55	.48	.57
Beer	.44	.41	.58	.49	.78	.43	.72
Mouthwash	.35	.51	.43	.45	.53	.38	.30*

*Not significant at .05.

Pearson product moment correlation coefficients.

N = 53

EC = Economic consequences
ES = Economic consequence salience
SC = Social consequences
SS = Social consequence salience
PC = Psychological consequences
PS = Psychological consequence salience
PR = Overall perceived risk

been corrected for scale width according to the technique reported by Martin (1973).

2. Internal Consistency. The techniques which have been derived for testing internal consistency do not lend themselves to analysis of single-item scales. The concept is not compatible with single items. However, if it is assumed that an individual can describe himself in terms of some "group" of products, then various groupings of products would provide "descriptions" of the individual which would be more or less accurate depending on the particular groupings used and the self-image held by the consumer. Following this line of logic, it is possible to test each scale in the instrument as a product-based description of some aspect of the individual such as self-image, ideal self-image, or social risk evaluator (perceiver). On this basis, each scale was evaluated as a whole using the coefficient of reliability alpha. Table 3-3 contains the coefficient alphas for the scales used in the study. These coefficients are generally excellent and do have meaning, but not in the present context. They may indicate reliability of another use of the scale in another context, the actual measure of congruence, for instance. The low coefficient alpha for purchase intention horizon is puzzling. It was thought that perhaps the nature of the products being considered caused the low coefficient. Therefore,

products were divided into durable and nondurable groups and further analysis conducted.

TABLE 3-3

COEFFICIENT ALPHA FOR SEPARATE SCALES

Scale	Alpha
Self-image/product	.823
Ideal self/product	.838
Economic consequences	.721
Economic salience	.917
Social consequence	.862
Social salience	.950
Psychological consequence	.860
Psychological salience	.898
Purchase horizon	.438
Overall risk	.852

Coefficient alpha for the nondurable group was .387 and for the durables it was .557 in this analysis. This is obviously not the answer to the problem. Perhaps purchase intentions are not independent, but due to such considerations as budgetary constraints, are interrelated to some degree. This might explain the phenomenon. Or, the concept of a "purchase perceiver" simply may not be realistic in the sense that the other scales can be so

interpreted. In other words, the intentions may not be cumulative in any meaningful way. Finally, the statistics may provide further support to product "anchoring" in consumer research.

3. Alternative Form Reliability. The last form of reliability, alternative form or parallel form, is also designed for multi-item scales. The assumption is that random response errors will cancel out among the items so that a true equivalent form reliability will emerge. In the single-item case, the cancelling effect is lost. Therefore, it would be expected that equivalent form reliability would be somewhat lower than the true value on an item-by-item basis.

Although the technique is not considered appropriate for single-item scales, it was applied to the two image scales, the risk factor scales, and the purchase intention scale. In order to accomplish this, the Landon (1974) self/product, ideal self/product, and purchase intention scales were administered to a group of 132 students, as mentioned above. For several of the products, test-retest reliability was known for the Landon scale as well as for the present scale. This allowed for a correction for attenuation as described by Nunnally (1978) and Guilford (1954). This correction is accomplished according to the following formula:

$$\hat{r}_{xy} = \frac{r_{xy}}{\sqrt{r_{xx}} \cdot \sqrt{r_{yy}}} \quad ,$$

where, $\hat{r}_{xy}$ is the corrected correlation

r_{xy} is the uncorrected correlation

r_{xx} is the test-retest for one form

r_{yy} is the test-retest for the other form

Table 3-4 contains the adjusted raw correlations for the Landon (1974) and present scales corrected for scale width differences according to Martin (1978). The technique simply requires division of obtained raw score correlations by a correction factor for the two scale widths--in this case the factor is .953 (Landon's scale is 9 points wide and the current scale is 7 points wide). The table also contains the item-by-item correlations for the three scales as adjusted for the attenuations presented in Table 3-1 (where applicable). Some caution is in order in interpreting these results.

Inherent in these calculations is the assumption that the test-retest correlations could be increased to 1.00. This is not a very probable occurrence. For this reason, the adjusted correlations represent only an upper limit on equivalence. Another caution is in order. The calculations assume that the only source of error is in response and that there are no other stochastic factors.

The risk scales will now be considered. Neither Peter and Tarpey (1975) nor Arie and Wong (1978) report any

TABLE 3-4

EQUIVALENCE OF LANDON AND PRESENT SCALE ITEMS
(N = 103)

Product	Self		Ideal	
	Raw	Corrected	Raw	Corrected
Headache remedy	.601	.835	.492	.766
Coffee	.794	.984	.725	1.036
35mm camera[b]	.591	.837	.424	.719
Formal clothing[b]	.712	.976	.547	.882
Deodorant	.226	.374	.395	.714
Color TV set	.374	.620	.472	.684
Sports car	.494	a	.542	a
Cologne	.477	a	.438	a
Beer	.777	1.007	.745	1.049
Mouthwash	.561	.852	.568	.899

[a]Landon test-retest not available.

[b]Products modified from Landon study.

test-retest reliability. For that matter, both studies were concerned with brands, not products. For that reason, test-retest attenuations are not available for analysis of the risk scales. However, a raw equivalent form is possible. The Peter and Tarpey, the Arie and Wong, and the present scales were administered to the same group of 132

students mentioned above. Table 3-5 presents the uncorrected (for attenuation) equivalence correlations for the Peter and Tarpey and present scales. In addition, the correlations for the Arie and Wong and present scales are also presented.

An item-by-item analysis reveals that the Arie and Wong scale usually correlates lower with the present scale than does the Peter and Tarpey scale.

Table 3-6 presents the equivalence correlations between the Peter and Tarpey (1975) and Arie and Wong (1978) scales obtained from the same student sample. Note that in all three cases, equivalence correlations are generally higher toward the right hand side (psychological) of the scale. This may indicate that psychological risk is most present or at least most consistent in the data.

Overall, the present scale cannot be said to correlate with the Peter and Tarpey scale any better than the Arie and Wong version does--in the present usage. On the other hand, it doesn't seem to do any worse. Comparisons of the three scales seem to vary item-by-item and construct-by-construct. This indicates that the differences are random rather than systematic so that no inference of comparative reliability can be made. This is probably as much a function of the single-item nature of the scaling as of anything else.

TABLE 3-5

EQUIVALENCE CORRELATIONS FOR PETER-TARPEY, ARIE-WONG, AND PRESENT SCALES

Product	Peter-Tarpey/Present						Arie-Wong/Present					
	EC	ES	SC	SS	PC	PS	EC	ES	SC	SS	PC	PS
Headache remedy	.37	.52	.72	.55	.55	.52	.06*	.37	.27	.35	.56	.44
Coffee	.39	.45	.45	.53	.46	.48	.27	.47	.34	.52	.49	.38
35mm camera	.34	.39	.58	.64	.43	.50	.24	.37	.47	.61	.46	.53
Formal clothing	.17*	.13*	.60	.61	.43	.51	.20	.14*	.53	.38	.40	.62
Deodorant	.29	.37	.41	.54	.37	.47	.06*	.24	.35	.27	.17*	.43
Color TV set	.34	.31	.57	.54	.39	.54	.22	.25	.45	.58	.41	.55
Sports car	.30	.18*	.46	.49	.47	.57	.28	.22	.46	.43	.25	.52
Cologne	.43	.53	.54	.70	.26	.49	.21	.37	.29	.39	.08*	.44
Beer	.65	.48	.59	.56	.53	.67	.27	.08*	.41	.40	.16*	.33
Mouthwash	.29	.59	.47	.49	.34	.45	.00*	.34	.13*	.42	.32	.36
			(N = 103)						(N = 108)			

*Not significant at .05.

EC = Economic consequences
ES = Economic consequence salience
SC = Social consequences
SS = Social consequence salience
PC = Psychological consequences
PS = Psychological consequence salience

TABLE 3-6

EQUIVALENCE CORRELATIONS FOR PETER-TARPEY
AND ARIE-WONG RISK SCALE ITEMS
(N = 132)

Product	EC	ES	SC	SS	PC	PS
Headache remedy	.263	.569	.312	.305	.512	.490
Coffee	.429	.585	.397	.313	.547	.578
35mm camers	.556	.407	.486	.666	.499	.549
Formal clothing	.351	.356	.479	.684	.429	.624
Deodorant	.227	.403	.340	.533	.435	.442
Color TV set	.326	.428	.558	.588	.589	.414
Sports car	.279	.327	.431	.547	.386	.481
Cologne	.352	.462	.286	.537	.424	.509
Beer	.236	.344	.437	.503	.411	.433
Mouthwash	.102*	.362	.450	.608	.475	.498

*Not significant at .05.

EC = Economic consequences

ES = Economic consequence salience

SC = Social consequences

SS = Social consequence salience

PC = Psychological consequences

PS = Psychological consequence salience

Conclusions on Reliability and Validity

In conclusion, classical domain-sampling measurement theory provides no techniques for assessing either the validity or reliability of single-item scales. The technique nearest to being applicable--test-retest correlations--is beset by one significant flaw. That is the assumption of random errors of response cancelling one another out. Since this cancelling effect is not in operation in the present instrument, the item test-retest appears to be very healthy for the most part given the large number of responses required and the fact that test-retest correlation of .70 is considered very encouraging in exploratory studies involving multi-item scales.

The other analyses performed--in particular the coefficient alpha--although not germaine to the present study do seem to provide at least logical support to the proposed usage of the scales. This and the basic compatibility designed into the instrument would seem to argue for the present form.

Summary

This chapter has presented the present state of consumer behavior modeling with respect to the variables of interest to this study. The overview has not been encouraging. The chapter has also presented a set of proposed relationships, the definitions and operationalizations

necessary to formalize them, and a set of hypotheses necessary to test the proposals. The next step was to design a research methodology which would produce data necessary for testing the hypotheses and reaching some conclusions about the proposed relationships. Finally, the vital issue of reliability and validity were examined to the extent possible given the nature of the scales designed for the study. In the next chapter, the results of tests of the hypotheses will be presented and discussed.

CHAPTER IV

RESEARCH FINDINGS

The purpose of this chapter is to present the results of tests of the hypotheses presented in the last chapter. The data tested were derived through administration of the questionnaire presented in Chapter III. The data collected were subjected to statistical analysis in order to ascertain the correctness of the predictions made by the hypotheses. Before discussing the actual analysis, some data transformations necessary for the analysis will be described. In addition, the risk model will be developed along with the section containing the risk hypotheses. The chapter is organized as follows:

1. Data Transformations
2. Image Hypotheses Tests
3. Ownership Effect Hypotheses Tests
4. The Risk Model
5. Perceived Risk Hypotheses Tests
6. Focal Hypotheses Tests

Data Transformations

Before discussing the tests of hypotheses, several data transformations will be clarified for the reader. As

mentioned in Chapter III, the analysis of data for purposes of testing hypotheses involves two basic techniques. These are: comparison of correlation coefficients through a "z" transformation, and the t-test for the equality of means. The t-test is straightforward and well known. However, the z transformation of correlation coefficients requires some explanation. Before proceeding with the explanation, however, one intermediate topic should be discussed. The z transformations are performed on partial correlation coefficients.

In order to examine image congruence relationships for the various time horizons, it was necessary to "factor out" the association of time with each of the relationships. Partial Pearson correlation coefficients were calculated to isolate this association from the relationship between SP and IP. (Exhibit 4-1 contains meanings for these and other construct abbreviations used in the analysis.) In addition, each type of image was factored out of the correlation of the other image with time (e.g., self was isolated from the ideal to time relationship). The first five hypotheses require comparisons of these partial correlation coefficients. Preliminary tables containing these partial correlation coefficients and their antecedents are provided in Tables 4-1 and 4-2.

Table 4-1 contains the overall correlations for SP/IP, SP/PH, and IP/PH (See Exhibit 4-1. Table 4-2, in

EXHIBIT 4-1

DEFINITIONS OF TERMS USED

SP	Self/product-image congruence
IP	Ideal self/product-image congruence
SI	Self/ideal self congruence
PH	Purchase intention horizon
SH	Self/product to horizon congruence
IH	Ideal/product to horizon congruence
SH·I	Congruence of SP and PH given IP
SI·H	Congruence of SP and IP given PH
IH·S	Congruence of IP and PH given SP
PER	Perceived economic risk
PSR	Perceived social risk
PPR	Perceived psychological risk
MPR	Perceived risk from risk model
PR	Reported overall perceived risk

turn, displays the time horizon-specific correlations. Through the calculation of these partial Pearson correlation coefficients, it is possible to isolate the influence of time from the correlation of SP and IP, and to isolate the influence of each image on the correlation of the other with time.

Hypotheses 1, 2, 4, and 6 require the comparison of the correlation coefficients just discussed. This is

TABLE 4-1

CORRELATIONS OF IMAGES AND TIME
OVER ALL TIME HORIZONS

Product	SI	SH	IH	SH·I	IH·S
Headache remedy	.52	.41	.18	.38	-.05
Coffee	.74	.68	.44	.58	-.12
35mm camera	.56	.24	.32	.08	.23
Formal clothing	.58	.36	.43	.16	.28
Deodorant	.69	.40	.42	.17	.21
Color TV set	.65	.06*	.10*	-.01	.08
Sports car	.55	.55	.61	.33	.44
Cologne	.77	.41	.45	.11	.23
Beer	.78	.60	.51	.38	.08
Mouthwash	.68	.45	.44	.23	.21

*Not significant at the .10 level.

SI = Congruence of SP and IP

SH = Congruence of SP and PH

IH = Congruence of IP and PH

SH·I = Partial correlation of SP and PH given IP

IH·S = Partial correlation of IP and PH given SP

SP = Reported congruence between self-image and product-image

IP = Reported congruence between ideal self and product

PH = Purchase intention horizon

TABLE 4-2

CORRELATIONS OF IMAGES AND TIME BY TIME HORIZON

Product	Short Horizon							Long Horizon						
	n	SI	SH	IH	SI•H	SH•I	IH•S	n	SI	SH	IH	SI•H	SH•I	IH•S
Headache remedy	104	.52	.26	.11	.51	.24	-.03	45	.51	.22*	.15*	.50	.17	.05
Coffee	130	.69	.18	.10*	.68	.15	.02*	28	.34	.28*	.13*	.32	.26	.03
35mm camera	14	.68	-.31	-.31*	.64	-.15	.14*	62	.61	.29	.38	.56	.08	.26
Formal clothing	41	.61	.33	.21*	.59	.26	.01	80	.55	.17*	.10*	.54	.14	.01
Deodorant	167	.64	.07*	.17	.64	-.05	.16	11	.11*	.42*	.33*	-.04	.41	.31
Color TV set	28	.60	.08*	.07*	.59	.05	.03	114	.62*	.02*	.02*	.62	.01	.01
Sports car	6	.10*	.00	.61*	.12	-.07	.62	42	.08*	.18*	.19*	.05	.17	.18
Cologne	99	.68	.08*	.08*	.67	.03	.04	67	.72	.06*	.05*	.72	.03	.02
Beer	90	.79	.20	.18	.79	.10	.04	33	.56	.08*	.05*	.56	.07	-.00
Mouthwash	128	.56	.23	.20	.54	.15	.08	36	.75	.49	.43	.69	.27	.12
Aggregate	802	.67	.19	.13	.66	.14	.01	515	.62	.05*	.02*	.62	.05	-.02
Convenience	727	.69	.20	.15	.68	.13	.02	218	.63	.23	.13	.62	.19	-.02
Durables	90	.61	.01	.07	.61	-.04	.07	297	.58	.04	.02	.58	.04	-.01

*Not significant at the .10 level.

SI•H = Partial correlation of SP and IP given PH
SH•I = Partial correlation of SP and PH given IP
IH•S = Partial correlation of IP and PH given SP
SI = Correlation of SP and IP
SH = Correlation of SP and PH
IS = Correlation of IP and PH

accomplished through a z transformation[1] for each coefficient and a test of the equality of the z's.

$$z_i = (1.15129) \log \frac{1 + r_i}{1 - r_i}$$

where r_i represents the correlation coefficient estimate obtained from the sample. The statistic x/s (area under the tail of the normal curve) is then calculated, where:

$$\frac{x}{s} = \frac{z_i - z_j}{\sigma z_i - z_j}$$

s = sample standard deviation

$$\sigma z_i - z_j = \sigma_i^2 + \sigma_j^2 \quad \text{and}$$

$$\sigma_i = \frac{1}{\sqrt{N_i - 2.667}}$$

The statistic is then compared to a table of normal curve areas for an estimate of the significance level. This technique is applicable to partial correlation coefficients and is interpreted in the same manner, since the correlation coefficient and the partial correlation coefficient have the same distribution (see Nie et al., 1975).

Image Hypotheses

The first set of hypotheses to be considered is the group which predicts relationships between the self-image, ideal self-image, and purchase intention horizons. There

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[1] z transformation from Croxton et al. (1969), pp. 623-624 and Appendix G.

are four hypotheses in this set. The first two relate the self-image and ideal self-image, respectively, to purchase intention horizons. The third hypothesis in the set will attempt to relate changes in the respective images to changes in intention horizons. The final hypothesis in the group will address the relationship of self-image to ideal self-image in a specific way as well as in relation to purchase intention horizons.

HYPOTHESIS 1: The Self-Image Hypothesis

> As purchase intention horizon moves from the short-run to the long-run, self/product-image congruence decreases.

Operationally, this translates into the statement that SH·I for the long-run will be smaller than SH·I for the short-run. In other words, the SP/PH relationship is stronger in the short-run than in the long-run. Table 4-3 contains the statistics necessary for testing this hypothesis. The table contains the short-run and long-run congruences as well as the x/s statistic calculated from the z transformed correlation coefficients. The significance levels of the x/s statistics are also included in the last column of the table. The hypothesis would be rejected for each of the products.

Dividing the products into the two groups--convenience (headache remedy, coffee, deodorant, cologne, beer, and mouthwash) and durable (35mm camera, formal clothing, color TV set, and sports car)--did not materially affect

TABLE 4-3

TESTS OF EQUALITY OF SHORT-RUN AND LONG-RUN CORRELATION COEFFICIENTS FOR THE SP/PH RELATIONSHIP

Product	Short Run SH·I	Long Run SH·I	x/s	Significance* Level
Headache remedy	.24	.17	.37	.36
Coffee	.15	.26	- .55	.29
35mm camera	-.15	.08	- .79	.21
Formal clothing	.26	.14	.69	.25
Deodorant	.05	.41	-1.55	.94
Color TV set	.05	.01	.20	.42
Sports car	-.07	.17	- .56	.71
Cologne	.03	.03	.00	.50
Beer	.10	.07	.13	.45
Mouthwash	.15	.27	- .64	.74
Aggregate	.14	.05	1.55	.06
Convenience	.13	.19	- .84	.80
Durables	-.04	.04	- .59	.72

*One tailed test.

SH·I = Partial correlation of SP and PH given IP

x/s = Area under tail of normal curve

the results of the analysis. The only x/s which lies significantly in the predicted direction is the one calculated for the aggregate analysis (all ten products taken simultaneously). It is possible that this significance is a function of the very large number of observations in the aggregate analysis (1,317) as compared to any of the other analyses.

HYPOTHESIS 2: The Ideal Self-Image Hypothesis

> As purchase intention horizon moves from the short-run to the long-run, ideal/product-image congruence increases.

Operationally, this hypothesis translates into the statement that IH·S for the long-run will be greater than IH·S for the short-run. If this prediction is true, the x/s statistic should have a negative sign. Table 4-4 presents the results of the comparisons of the correlation coefficients used in testing this hypothesis.

A look at the table will reveal that for five of the ten products a negative sign was obtained. However, only one of the five exhibited a significant difference. For one product, sports car, precisely the opposite relationship was found in the correlation coefficients. In this case, the aggregate analysis, as well as the analyses for the convenience and durable groupings, was in the direction opposite that predicted. Thus the hypothesis found support in only one of the ten products and in none of the aggregations.

TABLE 4-4

TESTS OF EQUALITY OF SHORT-RUN AND LONG-RUN CORRELATION COEFFICIENTS FOR THE IP/PH RELATIONSHIP

Product	Short Run IH·S	Long Run IH·S	x/s	Significance* Level
Headache remedy	-.03	.05	- .43	.33
Coffee	.02	.03	- .28	.39
35mm camera	.14	.26	-1.38	.08
Formal clothing	.01	.01	.02	.51
Deodorant	.16	.31	- .51	.30
Color TV set	.03	.01	.09	.54
Sports car	.62	.18	1.23	.90
Cologne	.04	.02	.17	.57
Beer	.04	-.00	.18	.57
Mouthwash	.08	.12	- .20	.42
Aggregate	.01	-.02	.40	.66
Convenience	.02	-.02	.53	.70
Durables	.07	-.01	.67	.75

*One tailed test.

IH·S = Partial correlation of IP and PH given SP

x/s = Area under tail of normal curve

HYPOTHESIS 3: The Image Change Hypothesis

> The absolute rate of change of ideal/product-image congruence will be greater than that for self/product-image congruence.

This hypothesis required the computation of differences between congruence relationships according to the formulae:

$$\left|\Delta SH \cdot I\right| = \left|SH \cdot I(short) - SH \cdot I(long)\right|$$

and

$$\left|\Delta IH \cdot S\right| = \left|IH \cdot S(short) - IH \cdot S(long)\right|$$

The hypothesis states that the ideal self-image/product-image relationship will gain in magnitude relative to the self-image/product-image relationship as purchase intentions recede into the future. Therefore, the change in IH·S should be greater in magnitude than the change in SH·I for each product and across products.

Table 4-5 presents the statistics necessary to test this hypothesis. The third column of the table presents the results of the subtraction of $\left|\Delta SH \cdot I\right|$ from $\left|\Delta IH \cdot S\right|$. The difference should be positive since $\Delta IH \cdot S$ is predicted to be of greater magnitude. For six of the ten products, the sign of the difference is as predicted. It is not true in the aggregate analysis. To determine whether it is generally true, the Wilcoxin matched-pairs signed-ranks test (Siegel, 1956) was conducted on the differences.

The T value for the negative signed differences was 28. T for the positive values was 27. At best, it must

TABLE 4-5

COMPARISON OF RATES OF CHANGE IN PARTIAL CORRELATIONS
OVER TIME HORIZONS FOR SH·I AND IH·S

Product	$\lvert\Delta SH \cdot I\rvert$	$\lvert\Delta IH \cdot S\rvert$	$\lvert IH \cdot S\rvert - \lvert SH \cdot I\rvert$
Headache remedy	.06	.08	.01
Coffee	.20	.22	.02
35mm camera	.23	.40	.17
Formal clothing	.13	.00	-.12
Deodorant	.46	.15	-.31
Color TV set	.80	.56	-.25
Sports car	.28	.83	.55
Cologne	.00	.03	.03
Beer	.03	.04	.01
Mouthwash	.11	.04	-.08
Aggregate	.09	.02	-.06
Convenience	.06	.04	-.02
Durables	.07	.08	.01

SH·I = Partial correlation of SP and PH given IP

IH·S = Partial correlation of IP and PH given SP

be concluded that the two relationships change about equally. The durable products exhibit the largest differences, but not systematically. The four durables (35mm camera, formal clothing, color TV set, and sports car) exhibit four of the five greatest differences. It is feasibe then that a breakdown of the products into the groups (convenience and durable) will provide additional insight into the phenomenon under investigation. The two groupings of products produced very small average differences. However, the durables group's difference lay in the predicted direction while the convenience group's difference lay in the opposite direction. This is encouraging since the durables are the products which produce the greatest differences in terms of magnitude.

HYPOTHESIS 4: The Image Time Hypothesis

> Self/ideal congruence will be greater in the long-run purchase intention horizon than in the short-run purchase intention horizon for all products and across products.

Operationally, this hypothesis predicts that the short-run SI·H will be smaller than the long-run SI·H. The purpose is to investigate whether intention horizons are differentially related to the congruence of the individual's self-image to his ideal self-image.

Table 4-6 presents the results of the analysis of the data for testing this hypothesis. The first two columns contain the short and long-run SI·H for each product and the three aggretates which were calculated for Table

TABLE 4-6

TESTS OF EQUALITY OF SHORT-RUN AND LONG-RUN CORRELATION COEFFICIENTS FOR SELF/IDEAL CONGRUENCE

Product	Short Run SI·H	Long Run SI·H	x/s	Significance* Level
Headache remedy	.51	.50	.14	.56
Coffee	.68	.32	2.38	.99
35mm camera	.64	.56	.45	.67
Formal clothing	.59	.54	.36	.64
Deodorant	.64	-.04	2.56	.99
Color TV set	.59	.62	- .21	.42
Sports car	.12	.05	.16	.57
Cologne	.67	.72	- .60	.27
Beer	.79	.56	2.13	.98
Mouthwash	.54	.69	-1.29	.10
Aggregate	.66	.62	1.44	.93
Convenience	.68	.62	1.32	.91
Durables	.61	.58	.39	.65

*One tailed test.

SI·H = Partial correlation of SP and IP given PH

x/s = Area under tail of normal curve

4-2. The z transformation of the correlation coefficient was used for this analysis as in the first two hypotheses. The hypothesis predicts a larger correlation coefficient in the long-run than in the short-run. Hence, the test is a one tailed test for equality of correlation coefficients (partial). The x/s statistic should have a negative sign in all cases to be consistent with the hypothesis. The last two columns of the table contain the x/s statistic and significance levels under a one-tailed hypothesis.

Only three products--color TV set, cologne, and mouthwash--produce x/s statistics with the predicted sign. Only one of these three (mouthwash) was statistically significant at the .10 level. In fact, for coffee, deodorant, and beer, just the opposite relationship appears to exist.

Part of the explanation for these unpredicted phenomena might have been the cell sizes involved for some of the products. However, several of the x/s statistics are near zero. This implies essential equality of SI·H in the short- and long-run cases. This sould be logical if the respondents in the sample were highly self-actualized in terms of products. For the fairly affluent sample selected, this may be precisely the case, particularly with respect to the products included in the study.

Analysis of the various groupings of the products produced mixed results. The overall aggregate produced results opposite to prediction. The convenience group, on

other hand provided significant support for the hypothesis. The durables group correlations exhibited a relationship in the predicted direction, but not significant.

Conclusions from Image Hypotheses Results

Overall, this first set of hypotheses was not supported by the findings. The first two hypotheses (Self-Image and Ideal Self-Image) were supported significantly in only one case each. The third hypothesis (Image Change) was equally poor in support. In this case, however, there is the implication that there is a different set of relationships for convenience and durable goods, although the relationships are not clear-cut. The fourth hypothesis makes the distinction between convenience goods and durables clearer and does have support in some cases. However, the opposite relationships are observable in just as many cases. These results indicate that perhaps there is more than one way in which these relationships operate.

The point has already been made about the relatively affluent status of the sample. This affluence brings up the question of actualizing and perfecting behaviors. Landon (1974)[1] investigated these behaviors and found that both types of tendencies exist among consumers. The present sample seems to consist almost entirely of actualizers.

[1] Actualizers--primarily motivated by self, short-run factors. Perfectors--may be motivated by ideal, hence may be long-run oriented in some cases.

In any event, the two samples are not comparable, since Landon used a sample composed entirely of students.

Ownership Effect Hypotheses

The second set of hypotheses is designed to identify and isolate the effect of ownership of products on the image congruence relationships. The set covers both self/product and ideal/product congruences as well as the self/ideal congruence relationship. Ownership is expected to increase congruence in all cases.

HYPOTHESIS 5: The Owner-Image Hypothesis

This hypothesis contains two parts: owner-self and owner-ideal.

H5a: Owners will exhibit more self/product-image congruence than will nonowners for all products and across products.

H5b: Owners will exhibit more ideal/product-image congruence than will nonowners for all products and across products.

The hypothesis suggests that ownership effects a closer match between the self-image and product-images. This is also proposed for the ideal self-image. This hypothesis does not include any reference to time horizons. Specifically, the mean value of SP (or IP) is predicted to be larger for owners than for nonowners. These proposals predict positive values for t-tests (one tailed) of the comparison of means.

Table 4-7 contains the mean SP and IP values for owners and nonowners, their sample sizes, the t statistic,

TABLE 4-7

MEAN SELF/PRODUCT CONGRUENCES AND IDEAL SELF/PRODUCT CONGRUENCES FOR OWNERS VS. NONOWNERS: t-TEST RESULTS

Product	Self Image						Ideal Image					
	Owners		Nonowners		t	Probability > t	Owners		Nonowners		t	Probability > t
	n	$\overline{SP}$	n	$\overline{SP}$			n	$\overline{IP}$	n	$\overline{IP}$		
Headache remedy	165	4.05	21	1.71	5.26	.00	165	2.61	21	1.33	2.81	.00
Coffee	157	5.06	30	1.77	8.10	.00	157	3.89	30	1.60	5.32	.00
35mm camera	72	4.99	114	2.39	9.36*	.00	72	4.69	114	3.27	4.67*	.00
Formal clothing	137	3.66	51	2.69	3.24*	.00	137	3.93	51	2.54	4.58*	.00
Deodorant	186	6.32	2	4.00	2.16	.02	186	6.06	2	4.00	1.59	.06
Color TV set	159	6.02	27	4.85	3.20	.00	159	5.24	27	5.00	.52*	.30
Sports car	28	5.04	159	2.63	6.50*	.00	28	5.04	159	3.36	3.65*	.00
Cologne	179	5.18	9	3.33	2.24*	.03	179	5.10	9	2.22	5.31*	.00
Beer	131	4.02	57	1.95	6.70	.00	131	3.58	57	1.75	5.82	.00
Mouthwash	173	5.12	15	2.33	6.62	.00	173	5.21	15	2.93	3.95*	.00
Aggregate	1387	5.00	485	2.54	23.59	.00	1387	4.54	485	2.93	14.39*	.00
Convenience	991	5.02	134	2.04	16.36	.00	991	4.49	134	1.85	12.62	.00
Durables	396	4.94	351	2.73	15.49*	.00	396	4.67	351	3.34	8.72*	.00

*Calculated for cases of unequal variance.

SP = Mean reported self to product congruence
IP = Mean reported ideal to product congruence

and the one-tailed probability of obtaining a larger t with the sample used. The left side of the table contains the results for the comparison of mean SP values and the right side contains the results for the mean IP values.

For two products, deodorant and cologne, the number of nonowners was very small (two and nine respectively). This requires caution in accepting the t-test results. However, for both products, the t values are in the predicted direction. The left side of Table 4-7 indicates for all products and across products in all three aggregations, the hypothesis can be accepted. It can be concluded that ownership effects a higher level of congruence between the self-image and product-image.

The right side of the table indicates that the hypothesis can be accepted for all products except color TV sets. Again, all three of the aggregations provide support for the hypothesis. Therefore, it can be concluded that ownership also effects a higher level of congruence between the ideal self-image and product-image, except for the lone exception of color TV set whose mean difference does lie in the predicted direction.

HYPOTHESIS 6: The Owner-Time Hypothesis

> Owners will exhibit greater self/ideal congruence than will nonowners for all time horizons, for all products, and across products.

The hypothesis proposes that in either the short-run or the long-run and for each product, the relationship between the

SP and IP will be greater for owners than for nonowners. This hypothesis predicts a direction in the differences between self and ideal correlations for owners and nonowners.

Table 4-8A contains the Pearson correlation coefficients for owners and nonowners with short-run intention horizons. Table 4-8B contains analogous statistics for the nonowners category. The partial correlations (SI·H: self/ideal given horizon) are also presented in the two tables. These partial correlations are compared in Table 4-8C and the results of the comparison are presented.

In considering Table 4-8A, note that there are very few short-run nonowners for any of the products. There are seven each for 35mm cameras and color TV sets. Both products are durables with relatively high prices. This might lead to the conclusion that anything not owned is not necessarily expected to be owned in the near future, except perhaps for fairly expensive items.

While this relationship between short-run expectations and product class is logical, it causes interpretation and inference to be difficult. As a matter of fact, as can be seen in Table 4-8C, the data were untestable for most of the products due to cell size considerations. On the other hand, there is a great number of nonowners with long-run purchase expectations for all products except headache remedy. These larger cell sizes are particularly

TABLE 4-8A

CORRELATIONS FOR SELF/IDEAL CONGRUENCE FOR OWNERS BY TIME HORIZON

Product	Short Horizon					Long Horizon				
	n	SI	SH	IH	SI·H	n	SI	SH	IH	SI·H
Headache remedy	102	.52	.28	.12*	.51	42	.50	.25*	.16*	.48
Coffee	128	.67	.15	.07*	.67	20	.23*	.34*	.18*	.18
35mm camera	8	.97	.50*	.32*	.99	30	.65	.32	.35	.60
Formal clothing	39	.63	.31	.22*	.61	69	.65	.08*	.03*	.65
Deodorant	166	.64	.09*	.17	.64	119	.11*	.41*	.33*	-.03
Color TV set	21	.60	.21*	.08*	.60	101	.64	.06*	.03*	.64
Sports car	2	---	---	---	---	14	.28*	.03*	.35*	.29
Cologne	100	.68	.08*	.08*	.67	64	.73	.01*	.01*	.73
Beer	87	.78	.23	.21	.77	28	.57	.03*	.08*	.57
Mouthwash	130	.56	.23	.20	.54	31	.81	.45	.51	.76
Aggregate	783	.67	.22	.16	.66	410	.67	.01*	.04*	.67
Convenience	718	.68	.21	.16	.67	196	.63	.19	.11*	.62
Durables	70	.69	.14*	.14*	.68	214	.67	.04*	.01*	.67

*Not significant at the .10 level.

SI = Congruence of SP to IP
SH = Congruence of SP to PH
IH = Congruence of IP to PH
SI·H = Partial congruence of SP to IP given PH

TABLE 4-8B

CORRELATIONS FOR SELF/IDEAL CONGRUENCE FOR NONOWNERS BY TIME HORIZON

Product	Short Horizon					Long Horizon				
	n	SI	SH	IH	SI·H	n	SI	SH	IH	SI·H
Headache remedy	1	----	---	---	---	1	---	---	----	---
Coffee	3	0	.50*	0	---	8	.59*	.23*	.02*	.60
35mm camera	7	.30*	.48*	.41*	.13	31	.47	.33	.44	.38
Formal clothing	2	1.00	0	0	---	11	.08*	.44*	.38*	-.10
Deodorant	1	----	---	---	---	0	---	---	---	---
Color TV set	7	.75	.30*	.21*	.74	13	.45*	.18*	.17*	.43
Sports car	4	.38*	-.22*	.58*	.63	28	.07*	.18*	- .15*	-.05
Cologne	0	----	---	---	---	3	.87*	.87*	1.00	---
Beer	4	1.00	.73*	.73*	---	5	.05*	.49*	- .22*	.18
Mouthwash	0	----	---	---	---	5	.40*	.68*	.05*	.50
Aggregate	29	.68	.41	.29	.64	105	.41	.22	.06*	.41
Convenience	9	.91	.66	.53*	.89	22	.55	.41	.13*	.55
Durables	20	.54	.28*	.13*	.53	83	.35	.20	.10*	.34

*Not significant at the .10 level.

SI = Congruence of SP to IP
SH = Congruence of SP to PH
IH = Congruence of IP to PH
SI·H = Partial congruence of SP to IP given PH

manifest in the cases of the durable products, as can be seen in Table 4-8B.

In every case for durables, owners with long-run expectations outnumber those with short-run purchase expectations. This is quite logical, as the nature of durables suggests that they are expected to provide service over relatively longer periods of time than convenience goods. It is also true that for convenience products, owners with short-run purchase intentions outnumber those with long-run intentions in every case. This is also quite logical.

The results of tests for equality of the correlation coefficients for short-run and long-run SI·H are presented in Table 4-8C. The z transformation of the correlation coefficient (partial) was used in this analysis. The table displays the x/s statistics and their levels of significance. The hypothesis suggests that in all cases, short- and long-run, owners should exhibit higher correlations than nonowners. Therefore, the x/s statistic should be positive in all cases to support the hypothesis.

The first two columns of the table present the x/s statistics and their significance levels for the short-run comparison. Only two products had adequate statistics for the comparison, 35mm camera and color TV set. Their correlations behave in opposite manners. 35mm cameras provide strong support for the hypothesis, while color TV sets show the opposite behavior in their correlations. The overall

TABLE 4-8C

TESTS OF EQUALITY OF SHORT-RUN AND LONG-RUN CORRELATION COEFFICIENTS FOR SELF/IDEAL CONGRUENCE FOR OWNERS VS. NONOWNERS

Product	Short Run		Long Run	
	x/s	Significance	x/s	Significance
Headache remedy	-----	---	-----	---
Coffee	-----	---	-1.23	.89
35mm camera	-----	---	1.16	.12
Formal clothing	-----	---	2.70	.00
Deodorant	-----	---	-----	---
Color TV set	-.56	.86	1.00	.16
Sports car	-----	---	1.82	.03
Cologne	-----	---	-----	---
Beer	-----	---	.95	.15
Mouthwash	-----	---	.84	.20
Aggregate	.16	.44	3.39	.00
Convenience	-1.76	.96	.98	.16
Durables	.94	.17	4.29	.00

x/s = Area under tail of normal curve

analysis is at best equivocal, while the convenience products as a group exhibited correlations which behaved in a manner opposite that predicted. The durables, on the other hand, were related more or less as predicted, but not significantly (.174). These results are encouraging, but not conclusive. Furthermore, it indicates again that there are differences between convenience and durable goods with respect to the phenomena under investigation.

The data for the long-run case are more amenable to analysis. The last two columns in Table 4-8C present the results of this comparison. In this case, two products exhibit significant support for the hypothesis, with three more approaching significance, and all but one lying in the predicted direction. For the three products which could not be compared, the reason was cell size of nonowners. For instance, there is only one nonowner with a long-run puchase intention for headache remedy. For deodorant, the cell size is zero.

The durable-convenience split is again present in the aggregations, but not nearly so clearly. In this case, the durables group provides strong support while the convenience items approach significance. This is very different than was the case for the short-run. Part of the difference might be in the much larger cell sizes for the long-run case. Thus, overall, this hypothesis receives mixed support. The results are much clearer in the long

run case and also much more encouraging. The implications are that ownership does affect the self/ideal relationship as manifested in attitudes toward products. It is likely that even "huge" sample sizes would not overcome the cell size problems encountered in the short-run analysis. It is logical that for some products, such as beer, people either use or do not use them, regardless of time.

Conclusions from Ownership Hypotheses Results

The hypotheses considered in this set received strong support in one case, and what might be described as equivocal support in the other case. Overall, the effect of ownership on image congruence relationships has been demonstrated. The specific relationship between the self and the ideal has not been clearly set apart, apparently due primarily to cell size problems which precluded analysis.

The effect of ownership on image congruence has been discussed earlier by Belch and Landon (1977). The results obtained for the Owner-Image hypothesis clearly support the conclusions reached in that study. This again brings up the affluence of the present sample. Belch and Landon used a student sample, which is logically less affluent than the sample used in the present study. They were able, therefore, to make much clearer the distinctions sought in the Owner-Time hypothesis. With the present sample, respondents

were either owners or nonowners by choice, not because of such things as budgetary constraints.

The Risk Model

Before proceeding with the analysis of the third set of hypotheses, a risk model needs to be developed. In Chapter III it was proposed that:

$$PRX = f(PERX, PSRX, PPRX)$$

or, that the perceived risk associated with a product is a function of the perceived economic, social, and psychological risk types. In the past (Peter and Tarpey, 1975; Arie and Wong, 1978) a simple additive model has been used. The purpose of this section is to develop the actual model to be used and to test the additive model assumption simultaneously.

In order to accomplish this task, it was necessary to obtain some estimate of overall perceived risk. This was roughly accomplished through the inclusion of scale No. 8 of the questionnaire (see Appendix A). The model to be tested is:

$$PRX = b_0 + b_1 PERX + b_2 PSRX + b_3 PPRX$$

or, more generally:

$$PR = b_0 + b_1 PER + b_2 PSR + b_3 PPR$$

The first step was a linear regression for each product using its unique perceived risk type values as independent variables and the reported overall risk as

the dependent variable. The beta coefficients for these analyses appear in Table 4-9. Note that for six of the products, social risk has an insignificant coefficient and that two of the remaining coefficients are negative. Economic and psychological risk coefficients are each significant for nine of the ten products. The R^2 values obtained in the regressions are generally low and of the same order of magnitude.

The low R^2 values led to a consideration of other forms of the variables. Those included were all multiplicative, square, and logarithmic terms for the variables. This attempt produced several very complex--and very different--model structures for the different products. Significantly, social risk, in any form, stayed in only two of the models when stepwise regressions were performed. Another significant result was that R^2 values were not improved to any meaningful extent for any of the products. Therefore, the basic linear models were considered adequate for the task at hand.

Two problems remain at this point: differences in the models and interpretation of the intercept value. Each of these problems must be dealt with before a final model is constructed.

The last column of Table 4-9 presents the ratio of coefficients of economic risk and psychological risk. Social risk was not considered at this point doe to its poor

TABLE 4-9

RISK MODEL COEFFICIENTS

Product	b_0	b_1	b_2	b_3	R^2	b_1/b_3
Headache remedy	1.07	.13	.03*	.14	.06	.94
Coffee	1.06	.18	.08*	.06*	.07	3.14
35mm camera	.61	.31	.25	.22	.22	1.42
Formal clothing	1.09	.24	-.02*	.20	.14	1.22
Deodorant	.80	.10	.00*	.17	.13	.61
Color TV set	.88	.29	-.21	.48	.24	.59
Sports car	2.35	.27	.03*	.23	.12	1.17
Cologne	.57	.21	-.05*	.33	.23	.64
Beer	.78	.10*	.29	.35	.30	.27
Mouthwash	.71	.15	-.12	.31	.20	.49
					mean	1.05

*Not significant at .10.

b_1 = Economic risk coefficient

b_2 = Social risk coefficient

b_3 = Psychological risk coefficient

overall contributions to model building up to this time. The ratios range from .27 to 3.14, with a mean ratio of 1.05.

The next step in the development of the model was to aggregate the risk scales for all products and attempt a simultaneous regression. In this attempt, the beta for social risk was again insignificant. Another regression was therefore performed without the inclusion of social risk. The resulting model was:

$$MPR = .84 + 24PER + .14PPR$$

with an R^2 of .14. At this point, the model is a linear combination of economic and psychological risk in the ratio of 1.7:1 (compare to the 1.05 average in the table).

A priori, risk is a composite construct. Logically, if risk is made up of components, then in the absence of its components (whatever they are), risk has no separate existence. This makes the intercept term in the risk models difficult to interpret. In addition, the range of the intercept terms in the table (.61 to 2.35) makes interpretation even more difficult. Therefore, an attempt was made to remove the intercept term and produce a zero-base model. The model produced in this case was:

$$MPR = .38PER + .31PPR.$$

For ease of computation, this was transformed to:

$$MPR^* = 1.2PER + PPR.$$

This model is the one that was used to estimate overall

perceived risk for the remaining hypotheses. This allows the use of a single model rather than a collection of separate models; a situation which would be very undesirable in the development of theory, or even consistent explanation. This model preserves the linearity assumed earlier, albeit in a modified form. With the model in hand, attention can be turned to the perceived risk hypotheses.

Perceived Risk Hypotheses

The third group of hypotheses predicts orders of magnitude of perceived risk with respect to the various time horizons. Each type of risk (economic, social, and psychological) and overall perceived risk will be considered in an individual hypothesis. Overall perceived risk will be analyzed from two bases: reported perceived risk (from section 7 of the questionnaire, Appendix A), and risk as computed from the risk model developed in the last section.

All hypotheses predict more risk associated with long-run intentions than with short-run intentions. This is in keeping with the concept that consumers who perceive high-risk in a certain product may perceptually postpone purchase of the product as a temporary risk-reduction technique. The hypotheses, however, are concerned only with the existence of such a relationship, not its mechanics.

HYPOTHESIS 7: The Economic Risk Hypothesis

Perceived economic risk will be less in the

> short-run purchase intention horizon than in the long-run purchase intention horizon for each product and across products.

Operationally, this hypothesis predicts that mean PER for consumers with short-run intentions will be of lesser magnitude than men PER for consumers with long-run purchase intentions. This prediction requires a one-tailed t-test for comparison of means.

Table 4-10 contains the data for the testing of the hypothesis. Seven of the t values have the predicted sign. The three products which fail to exhibit the relationship in the predicted direction are all convenience items: headache remedy, beer, and mouthwash. This might lead one to suspect that the convenience group would not exhibit the predicted relationship in a group analysis. This is precisely the case. The durables group exhibits significantly different mean perceived economic risk scores for the short- and long-run cases. The convenience group lies in the predicted direction, but at essential equality for the horizons. The overall aggregate analysis also proved to provide significant support for the hypothesis.

Only one product, color TV set, provided significant support for the hypothesis, although the means for all of the durables lay in the predicted direction. One of the convenience items, cologne, approached significance. Otherwise the results indicate that risk is perceived fairly

TABLE 4-10

COMPARISON OF MEAN PERCEIVED ECONOMIC RISK FOR SHORT-RUN AND LONG-RUN: t-TEST RESULTS*

Product	Short Run		Long Run		t	Probability > t
	n	$\overline{PER}$	n	$\overline{PER}$		
Headache remedy	103	1.92	44	1.65	1.16	.88
Coffee	127	1.98	28	2.16	- .62	.27
35mm camera	13	2.82	60	2.93	- .19	.42
Formal clothing	40	3.23	77	3.35	- .33	.37
Deodorant	163	2.07	11	2.32	- .60	.28
Color TV set	26	2.88	112	3.76	-2.12	.02
Sports car	6	3.56	42	3.96	- .45	.34
Cologne	96	2.03	66	2.22	- .88	.19
Beer	88	2.18	33	2.14	.16	.66
Mouthwash	126	1.97	36	1.96	.02	.51
Aggregate	788	2.14	509	2.88	-7.79	.00
Convenience	703	2.02	218	2.05	- .21	.42
Durables	85	3.08	291	3.51	-1.86	.07

*One-tailed test.

equally in both horizons, though generally in the predicted direction.

HYPOTHESIS 8: The Social Risk Hypothesis

> Perceived social risk will be less in the short-run purchase intention horizon than in the long-run purchase intention horizon for each product and across products.

Operationally, this hypothesis predicts that mean PSR (perceived social risk) will be of greater magnitude in the long-run case than in the short-run case. This prediction implies a t statistic for the comparison of means which has a negative value. This again is a one-tailed test for the equality of means.

Table 4-11 contains the data for testing this hypothesis. The results of the t-tests are mixed. Again, three of the convenience products produced mean risk values with a relationship opposite the one predicted. (Two of the same products, headache remedy and beer, displayed similar relationships in the economic risk case.) In this case, a durable joined the group with opposite relationships between the mean values. Two products, 35mm camera and cologne, exhibited significant evidence of the predicted relationship. These mixed results make it very hard to predict anything about the group analyses.

The t values for the convenience products and for the overall aggregate have positive signs, indicating lack of support for the hypothesis. The durables, however, have the predicted sign, but not at a significant level.

TABLE 4-11

COMPARISON OF MEAN PERCEIVED SOCIAL RISK FOR SHORT-RUN AND LONG-RUN: t-TEST RESULTS

Product	Short Run		Long Run		t	Probability > t
	n	$\overline{PSR}$	n	$\overline{PSR}$		
Headache remedy	105	1.51	44	1.30	1.06	.86
Coffee	128	1.43	28	1.46	- .17*	.43
35mm camera	13	1.26	62	1.58	-1.37*	.09
Formal clothing	40	1.64	78	1.66	- .08*	.47
Deodorant	163	1.98	11	1.55	.75	.77
Color TV set	27	1.38	113	1.65	-1.06	.15
Sports car	6	2.01	42	1.51	1.22	.89
Cologne	97	1.43	66	1.70	-1.41	.08
Beer	88	1.62	33	1.59	.15*	.56
Mouthwash	127	1.72	36	1.74	- .06*	.48
Aggregate	788	1.63	513	1.60	.48	.69
Convenience	708	1.65	218	1.57	.70	.76
Durables	86	1.53	295	1.62	- .70	.24

*t calculated for cases of unequal variance.

HYPOTHESIS 9: The Psychological Risk Hypothesis

> Perceived psychological risk will be less in the short-run purchase intention horizon than in the long-run purchase intention horizon for each product and across products.

Operationally, this hypothesis predicts that the mean PPR (perceived psychological risk) will be greater for consumers with long-run expectations than for consumers with short-run expectations. This prediction again implies a negative t statistic in a one-tailed test for the comparison of means for equality.

Table 4-12 contains the data for testing this hypothesis. Results are mixed again. However, the problem is not as severe as in the case of social risk. The data for three products (formal clothing, sports car, and beer) produce t values with signs opposite those predicted. In all three cases, however, the mean PPR values are approximately equal. Coffee supports the hypothesis, and color TV sets and cologne approach significance.

In the group analyses, the durables and convenience items produced t values with the predicted sign. In this case the convenience items approached significance while the durables produced a t value of smaller magnitude. The overall aggregate produced significant results. Apparently the convenience items had relatively more influence on the results in this case than did the durables.

HYPOTHESIS 10: The Overall Risk Hypothesis

> Overall perceived risk will be less in the

TABLE 4-12

COMPARISON OF MEAN PERCEIVED PSYCHOLOGICAL RISK FOR SHORT-RUN AND LONG-RUN: t-TEST RESULTS

Product	Short Run		Long Run		t	Probability > t
	n	$\overline{PPR}$	n	$\overline{PPR}$		
Headache remedy	105	1.72	44	1.77	- .22*	.42
Coffee	128	1.62	28	1.98	-1.53*	.07
35mm camera	13	1.53	62	1.73	- .61	.27
Formal clothing	40	1.98	77	1.97	.03*	.51
Deodorant	164	1.90	11	2.00	- .22*	.41
Color TV set	27	1.52	112	1.86	-1.21	.11
Sports car	6	1.86	42	1.78	.15	.56
Cologne	98	1.62	67	1.86	-1.25	.11
Beer	87	1.78	33	1.86	- .25*	.40
Mouthwash	127	1.68	35	1.65	.12*	.55
Aggregate	795	1.75	511	1.84	-1.47	.07
Convenience	709	1.73	218	1.83	-1.03	.15
Durables	86	1.76	293	1.85	- .59	.28

*t calculated for cases of unequal variances.

> short-run purchase intention horizon than in the long-run purchase intention horizon for each product and across products.

Operationally, the hypothesis predicts that the mean overall perceived risk will be smaller for consumers with short-run purchase expectations than for those with long-run expectations. This prediction again implies a negative t value in a one-tailed test for the comparison of means for equality. The hypothesis will be tested in two parts: perceived risk from the model constructed in the last section, and reported overall perceived risk from part 7 of the questionnaire.

1. Perceived Risk Model. In the last section, the model:

$$MPR^* = 1.2PER + PPR$$

was constructed as the best general model available for the data collected. (MPR is model perceived risk.) This model was applied to the data for economic and psychological risk types and the resulting computed "overall" risk tested for this hypothesis.

The left portion of Table 4-13 contains the data for testing this hypothesis using the risk model to calculate overall perceived risk. The t values calculated for two products, headache remedy and mouthwash, were found to lie in the direction opposite to the one predicted. For mouthwash equality is observed. The relationship for headache remedy is somewhat stronger but not significantly opposite.

TABLE 4-13

COMPARISON OF MEAN OVERALL PERCEIVED RISK FOR SHORT RUN AND LONG RUN: t-TEST RESULTS

Product	Perceived Risk Model						Reported Perceived Risk					
	Short Run		Long Run		t	Probability > t	Short Run		Long Run		t	Probability > t
	n	$\overline{PR}$	n	$\overline{PR}$			n	$\overline{PR}$	n	$\overline{PR}$		
Headache remedy	103	4.04	44	3.74	.74*	.77	103	1.43	44	1.47	- .19*	.43
Coffee	126	3.99	28	4.57	-1.17*	.13	126	1.25	28	2.39	- 5.23	.00
35mm camera	13	4.91	60	5.28	- .43*	.34	13	2.00	60	2.08	- .16*	.44
Formal clothing	40	5.85	76	6.03	- .30*	.38	40	1.95	76	2.20	- .96	.17
Deodorant	161	4.35	11	4.78	- .53*	.30	161	1.27	11	2.91	- 4.82	.00
Color TV set	26	5.00	110	6.38	-2.37*	.01	26	2.52	110	2.42	.28*	.61
Sports car	6	6.13	42	6.53	- .30*	.39	6	3.60	42	3.52	.07*	.53
Cologne	96	4.07	66	4.53	-1.26*	.11	96	1.22	66	1.84	- 3.66	.00
Beer	86	4.41	33	4.42	- .01*	.49	86	1.59	33	1.85	- 1.04	.15
Mouthwash	125	4.05	35	4.02	.06*	.52	125	1.16	35	1.72	- 3.34	.00
Aggregate	782	4.30	505	5.31	-6.50	.00	782	1.40	505	2.20	-10.69	.00
Convenience	697	4.15	217	4.29	- .73	.23	697	1.30	217	1.87	- 6.79	.00
Durables	85	5.47	288	6.08	-1.72	.04	85	2.23	288	2.44	- 1.06	.14

*t calculated for cases of unequal variance.

Of the remaining products, color TV set provided significant support for the hypothesis, while two other products, coffee and cologne, approached significance. Results for the other products were inconclusive, but in the predicted direction.

The group analyses resembled the group analyses for economic risk above. The durables and the overall aggregate produced significant t values. The convenience items were encouragingly in the predicted direction.

2. Reported Overall Perceived Risk. The right portion of Table 4-13 contains the data for testing overall perceived risk which was derived from the questionnaire (scale No. 7). Again, two t values were derived which exhibited signs opposite those predicted. They were not, however, the same products exhibiting this behavior in the case of the risk model. In this case they were color TV sets and sports cars. For both products the mean risk values were essentially equal. Of the remaining eight products four display significantly negative t values.

In the group analyses, the convenience items and the overall aggregate provided support for the hypothesis, while the durables group approached significance. This group difference has been seen in the analysis of all of the risk hypotheses.

Conclusions from Risk Hypotheses Results

On a product-by-product basis the risk hypotheses

did not predict very well. On a group basis, however, the hypotheses were much more accurate.

Of the risk types, psychological risk was the "best" predictor on a product-by-product basis. As far as overall perceived risk is concerned, the reported overall risk performed much better on a product-by-product basis than did the model. Coffee, 35mm cameras, and cologne consistently exhibited the predicted relationships between short-run and long-run perceived risk means. No products consistently exhibited the opposite relationship.

In the group analyses, the overall aggregate provided significant support for each hypothesis except the social risk hypothesis. This might be expected since social risk was insignificant in the construction of the risk model. The durables group (35mm camera, formal clothing, color TV set, and sports car) provided significant support for the economic risk hypothesis and the "model" perceived risk. The durables also approached significance in the reported overall analysis. In fact, the durables highest significance level was .279, thus providing support for the contention that the durables support the risk hypotheses in general.

The convenience items, on the other hand, show much more divergent behavior. They do not possess a significant t value for any of the hypotheses except the reported overall perceived risk. The t value approaches significance

in the psychological risk hypothesis. In one case, the social risk hypothesis, this group even produced the sign opposite that predicted for the t value. In general, the overall aggregate seems to be influenced more by the durables in the economic risk hypothesis and the model analysis of overall risk. The convenience items influence the overall aggregate in the cases of social risk, psychological risk, and reported overall perceived risk. The implications inherent in these findings will be presented to in the summary for this chapter.

Attention will now be turned to the final group of hypotheses. These hypotheses contain predictions which involve the focal relationships of the dissertation.

Focal Hypotheses

The final group of hypotheses are the focal hypotheses of the study. They are intended to reveal whether self-image and perceived risk are related to one another. The first of this set of three hypotheses predicts that respondents with high self-image to product-image congruence perceive less of each type of risk than respondents with low self-image to product-image congruence. The second hypothesis in the set predicts a precisely analogous relationship for the ideal self-image.

Finally, the last hypothesis of the study predicts that high congruence owners will perceive less risk than low congruence owners. This hypothesis has the effect of

removing ownership as it is related to both high congruence and low perceived risk, and allows attention to be focused on the vital image/risk relationship in isolation from ownership. An analogous relationship is not predicted for the ideal self-image to risk case. This case would be much more difficult a priori since ownership probably has the effect of subverting perfection tendencies to actualization tendencies.

The hypotheses in this set require that the sample be divided into "high" and "low" congruence categories. This is accomplished in each case by taking a median split. The scale value used to accomplish this split is presented in the first column of part A of the appropriate tables for each hypothesis. The value listed is the lowest SP value for the high congruence group. In some cases, such as deodorant in Table 4-14A, the split is far from equal. This inequality of cell size occurred because of the discrete scale values used and the tendency for responses to congregate near one end of the scale for some products. This requires some caution in interpretation. In each case, other splits were considered and the one which yielded the nearest equal distribution was chosen. The tendency for values to cluster towards the scale extremes made any other type of division (e.g., quartiles) impractical.

HYPOTHESIS 11: <u>The High Self Congruence Hypothesis</u>

> High self/product congruence consumers will perceive less of each type of risk than will

low self/product congruence consumers for each product and across products.

Operationally, the hypothesis predicts that the mean level of each type of risk (including overall risk) will be higher for consumers who exhibit low congruence (relative to the sample) than for those consumers who exhibit high congruence relationships between self-image and product-image. This dissertation is founded on the idea that poor image matching (low congruence) results in perceived risk which is then partially alleviated by perceptual postponement of purchase. This hypothesis, then, tests a vital assumption of the study.

Table 4-14A contains the results of the analysis of the data collected to test this hypothesis. The table illustrates the high congruence split value, the numbers of high and low congruence consumers obtained in the median split, and the statistics necessary to test the hypothesis for the risk types. The t statistics and their significance levels for one-tailed tests are also included. The hypothesis predicts a positive t value. Table 4-14B contains the results for the MPR (perceived risk from model) and PR (reported perceived risk). Each type of risk will be taken in turn.

1. Perceived Economic Risk. A look at Table 4-14A reveals that all products except deodorant, cologne, and mouthwash support the hypothesis. Deodorant and cologne fall in the predicted direction. Mouthwash is the only

TABLE 4-14A

COMPARISON OF MEAN ECONOMIC, SOCIAL, AND PSYCHOLOGICAL PERCEIVED RISK TYPES FOR HIGH VS. LOW SELF/PRODUCT CONGRUENCE CONSUMERS: t-TEST RESULTS

Product	High ≥	Low n	High n	Economic				Social				Psychological			
				$\overline{PER}$		t	Probability > t	$\overline{PSR}$		t	Probability > t	$\overline{PPR}$		t	Probability > t
				Low	High			Low	High			Low	High		
Headache remedy	4	90	93	1.98	1.71	1.31	.09	1.53	1.39	.90*	.18	2.08	1.61	2.19	.02
Coffee	5	81	101	2.29	1.98	1.29	.10	1.47	1.40	.42*	.34	1.98	1.57	2.26	.01
35mm camera	4	90	91	3.56	3.15	1.33*	.09	1.44	1.56	- .82	.80	1.75	1.89	- .72*	.76
Formal clothing	4	99	85	3.74	3.21	1.82	.04	1.58	1.69	- .60	.73	2.14	1.91	1.08*	.14
Deodorant	7	43	139	2.18	2.07	.41*	.34	1.51	2.11	-1.86	.97	1.77	1.98	- .71	.76
Color TV set	7	79	102	3.89	3.39	1.67*	.05	1.49	1.55	- .36	.64	1.88	1.78	.52*	.30
Sports car	3	86	98	5.14	4.24	2.70*	.00	1.61	1.56	.32	.38	2.35	2.14	.83*	.20
Cologne	6	86	94	2.21	2.07	.64*	.26	1.58	1.48	.57*	.29	1.77	1.78	- .02	.51
Beer	4	93	90	2.80	2.25	2.01	.02	2.24	1.79	1.75	.04	2.69	2.03	2.37	.01
Mouthwash	5	73	110	1.92	2.07	- .62	.73	1.34	1.93	-2.74	.99	1.67	1.79	- .64	.74
Aggregate		820	1011	3.03	2.58	4.75	.00	1.59	1.67	-1.21	.89	2.03	1.85	2.63	.00
Convenience		466	627	2.25	2.03	2.24	.01	1.64	1.72	- .87	.83	2.03	1.80	2.53	.01
Durables		354	376	4.07	3.51	3.49	.00	1.53	1.59	- .67	.75	2.03	1.93	.96	.17

*t calculated for cases of unequal variance.

product for which the results are in the opposite direction. Therefore, it can be concluded that on a product-by-product basis the hypothesis can be accepted for economic risk.

Similar results are obtained for the various groupings of the products. The convenience items and durables were both significantly related, as was the overall aggregate.

2. Perceived Social Risk. Table 4-14A also contains the results for the analysis of the data to test the hypothesis for social risk. In this case the results were almost opposite to those obtained for economic risk. Only one product produced results which were significant.

In this case, the groupings also failed to support the hypothesis. Each grouping produced a t statistic which displayed the sign opposite to the one predicted by the hypothesis. There was no particular difference between durables and convenience items.

3. Perceived Psychological Risk. The last section of Table 4-14A contains the results of testing the hypothesis for psychological risk. Data for four products produced t statistics with the sign opposite to that predicted. However, this case also produced three significant t values and another approaching significance. Note that all products except 35mm camera, deodorant, and cologne exhibited about the same behavior in the first part

of the analysis (PER). In the group analysis, the convenience group provided significant support for the hypothesis, as did the overall aggregate. The analysis for durables approached significance.

4. Perceived Risk Model. Results for the perceived risk model appearin Table 4-14B. The split values and cell sizes are the same as in Table 4-14A. Two products, deodorant and mouthwash, have negative t values for MPR* testing. Findings for these products were contrary to prediction throughout the analysis of the other risk types. Of the eight remaining products, six provide support for the hypothesis.

In the analysis for the groupings of products, all three groupings produced significant t values. Thus, in a general sense the model provides very good support for the hypothesis.

5. Reported Overall Risk. The right portion of Table 4-14B displays the results for the reported perceived risk scale. In this case seven products provide significant support for the hypothesis, with two more approaching significance. The last product, 35mm cameras, also produced a positive t statistic. Again, all three groupings of the products provide significant support for the hypothesis.

6. Summary. Except for the social risk construct, the hypothesis received strong support, particularly in

TABLE 4-14B

COMPARISON OF MEAN OVERALL PERCEIVED RISK FOR HIGH VS. LOW SELF/PRODUCT CONGRUENCE CONSUMERS: t-TEST RESULTS

Product	Perceived Risk Model						Reported Perceived Risk					
	Low		High		t	Probability > t	Low		High		t	Probability > t
	n	$\overline{PR}$	n	$\overline{PR}$			n	$\overline{PR}$	n	$\overline{PR}$		
Headache remedy	89	4.44	93	3.68	2.08	.02	89	1.80	93	1.54	1.26	.11
Coffee	81	4.74	100	3.93	1.99	.02	81	2.12	100	1.33	3.84	.00
35mm camera	90	6.03	90	5.64	.84*	.20	90	2.59	90	2.36	.81*	.21
Formal clothing	97	6.62	85	5.78	1.86	.03	97	2.51	85	2.19	1.29	.10
Deodorant	42	4.38	138	4.43	- .10	.54	42	1.66	138	1.33	1.58	.06
Color TV set	76	6.60	101	5.87	1.59*	.05	76	2.73	101	2.35	1.38*	.09
Sports car	85	8.58	97	7.23	2.56*	.01	85	4.72	97	3.65	3.14	.00
Cologne	85	4.44	93	4.26	.49	.31	85	1.82	93	1.43	2.00	.02
Beer	92	6.09	89	4.74	2.77	.00	92	2.90	89	1.93	3.28	.00
Mouthwash	72	3.97	109	4.28	- .81*	.79	72	1.51	109	1.34	.95*	.17
Aggregate	809	5.69	995	4.95	4.91	.00	809	2.50	995	1.90	6.92	.00
Convenience	461	4.74	627	4.23	2.95	.00	461	2.02	627	1.46	6.27	.00
Durables	348	6.94	373	6.15	3.23	.00	348	3.11	373	2.65	3.01	.00

*t calculated for cases of unequal variance.

the product groupings. Careful scrutiny is required at the product level, but generally the data for the individual products behaved in a consistent manner throughout. Deodorant and mouthwash did not exhibit consistent behavior. Both products produced significant coefficients for social risk in the regression analysis, and consequently produced different results for MPR* and PR.

HYPOTHESIS 12. The High Ideal Congruence Hypothesis

> High ideal/product congruence consumers will perceive less of each type of risk than will low ideal/product congruence consumers for each product and across products.

Operationally, the hypothesis predicts that the mean level of each type of risk (including overall risk) will be higher for consumers who exhibit low congruence (relative to the sample) than for those consumers who exhibit high congruence relationships between ideal self-image and product-image. The hypothesis predicts a positive t value as a test for the equality of means. The hypothesis has the same rationale as the High Self Congruence hypothesis, the only difference being the image involved.

Table 4-15A contains the median split values and the numbers of low and high ideal congruence consumers. The test results for the economic, social, and psychological risk types are also presented. Table 4-15B contains the results for the overall perceived risk measures (model and reported).

1. Perceived Economic Risk. Table 4-15A reveals

TABLE 4-15A

COMPARISON OF MEAN ECONOMIC, SOCIAL, AND PSYCHOLOGICAL PERCEIVED RISK TYPES FOR HIGH VS. LOW IDEAL/PRODUCT CONGRUENCE CONSUMERS: t-TEST RESULTS

Product	High ≥	Low n	High n	Economic				Social				Psychological			
				$\overline{PER}$		t	Probability > t	$\overline{PSR}$		t	Probability > t	$\overline{PPR}$		t	Probability > t
				Low	High			Low	High			Low	High		
Headache remedy	2	105	78	1.83	1.87	- .21*	.58	1.38	1.56	-1.11	.87	1.89	1.77	.59*	.28
Coffee	4	93	89	2.35	1.87	2.00	.02	1.44	1.42	.14*	.43	1.97	1.53	2.48	.01
35mm camera	4	66	115	3.03	3.54	-1.56*	.94	1.48	1.51	- .24*	.60	1.75	1.87	- .58*	.72
Formal clothing	4	86	98	3.65	3.36	1.00	.15	1.45	1.79	-1.96	.98	1.93	2.13	- .96*	.83
Deodorant	7	58	124	2.17	2.06	.39	.35	1.67	2.11	-1.48	.93	2.17	2.06	.39	.35
Color TV set	6	81	100	3.97	3.32	2.11*	.02	1.60	1.46	.86*	.19	2.05	1.63	2.15*	.02
Sports car	4	86	98	4.72	4.61	.32*	.37	1.54	1.62	- .49	.69	2.44	2.05	1.54	.06
Cologne	6	89	91	2.19	2.08	.54*	.30	1.63	1.43	1.16	.12	1.88	1.67	1.11	.13
Beer	2	77	106	2.97	2.21	2.86	.00	2.43	1.73	2.73	.00	2.94	1.96	3.57	.00
Mouthwash	6	94	89	2.07	1.94	.54*	.29	1.55	1.87	-1.49	.93	1.71	1.77	- .32*	.63
Aggregate		835	988	2.87	2.72	1.62	.05	1.60	1.66	- .97	.84	2.04	1.84	2.82	.00
Convenience		516	577	2.24	2.02	2.28	.01	1.65	1.71	- .67	.75	2.02	1.79	2.58	.00
Durables		319	411	3.89	3.70	1.19	.17	1.52	1.59	- .89	.81	2.06	1.92	1.33	.09

*t calculated for cases of unequal variance.

that for three products (coffee, color TV set, and beer), significant t values were obtained. The data for 35mm cameras are in the opposite direction from that predicted. Headache remedy is in the same direction but was near equality. The t value obtained for formal clothing approached significance.

When group analysis was performed, the overall aggregate t statistic was significant as well as the t statistic for the convenience items. The durables approached significance.

2. Perceived Social Risk. Table 4-15A also presents the results of the analysis of social risk. In this case, only one product, beer, provided significant support. In fact, six products produced t values with the opposite sign. The groupings all produced negative t values of the same order of magnitude as those obtained in the analogous analysis for the High Self Congruence hypothesis.

3. Perceived Psychological Risk. The last section of Table 4-15A contains the results of testing the hypothesis for psychological risk. Four products (coffee, color TV set, sports car, and beer) produced significant t values. Three products produce negative t values, none significant. In all cases group analysis provided support for the hypothesis.

4. Perceived Risk Model. Results for overall perceived risk appear in Table 4-15B. The left portion of the

TABLE 4-15B

COMPARISON OF MEAN OVERALL PERCEIVED RISK FOR HIGH VS. LOW IDEAL/PRODUCT CONGRUENCE CONSUMERS: t-TEST RESULTS

Product	Perceived Risk Model						Reported Perceived Risk					
	Low		High		t	Probability > t	Low		High		t	Probability > t
	n	$\overline{PR}$	n	$\overline{PR}$			n	$\overline{PR}$	n	$\overline{PR}$		
Headache remedy	104	4.08	78	4.02	.16*	.44	104	1.64	78	1.70	- .27*	.61
Coffee	93	4.81	88	3.75	2.61	.00	93	2.03	88	1.31	3.50	.00
35mm camera	66	5.39	114	6.09	-1.41*	.92	66	2.51	114	2.45	.20*	.42
Formal clothing	84	6.29	98	6.17	.27	.39	84	2.48	98	2.27	.88	.19
Deodorant	56	4.43	124	4.41	.05	.48	56	1.61	124	1.31	1.48*	.07
Color TV set	78	6.88	99	5.64	2.72*	.00	78	2.96	99	2.14	3.11	.00
Sports car	86	8.12	96	7.62	.93	.18	86	4.35	96	3.98	1.06	.14
Cologne	87	4.53	91	4.17	.97	.17	87	1.87	91	1.36	2.58	.01
Beer	77	6.51	104	4.62	3.91	.00	77	3.29	104	1.79	5.28	.00
Mouthwash	94	4.20	87	4.11	.24*	.41	94	1.47	87	1.33	.85*	.20
Aggregate	825	5.49	979	5.10	2.55	.01	825	2.41	979	1.97	5.15	.00
Convenience	511	4.72	572	4.21	2.93	.00	511	1.96	572	1.46	5.67	.00
Durables	314	6.75	407	6.36	1.56	.06	314	3.11	407	2.69	2.76	.00

*t calculated for cases of unequal variance.

table contains the results for the perceived risk model. Three products provide support in this case, with two more approaching significance. Only one product has a negative t value (35mm camera). All group analyses provided strong support for the hypothesis.

5. Reported Overall Risk. The right portion of Table 4-15B displays the results for the reported perceived risk scale. In this case, five products provide support for the hypothesis. Three more approach significance. Only one, headache remedy, produced a negative t value, and this one is near zero. Again, all group analyses were significantly in support of the hypothesis.

6. Summary. As in the case of the High Self Congruence hypothesis, this hypothesis has received strong support except in the case of the social risk construct. Most products exhibited fairly consistent behavior across the five tests with the one really notable exception of formal clothing. Mouthwash also seemed somewhat erratic in the behavior of its mean risk values.

HYPOTHESIS 13: The Self Congruence Owner Hypothesis

> High self/product congruence owners of products will perceive less of each type of risk than will low self/product congruence owners for each product and across products.

Operationally, the hypothesis predicts that the mean level of each type of risk (including overall risk) will be higher for owners who exhibit low congruence (relative to the sample) than for those owners who exhibit high

congruence relationships between self-image and product-image. The hypothesis predicts a positive t value as a test for the equality of means. The hypothesis has the same rationale as the other two hypotheses in this section. In this case, however, only owners of products are involved in the analysis in an attempt to illustrate that the relationship exhibited in Hypothesis 11 is not solely dependent on the owner/nonowner dichotomy.

Table 4-16A contains the median split values and numbers of low and high congruence owners of products. For deodorant the split is probably meaningless. The product seems to be perfectly assimilated into the life styles of its owners. The remainder of the table is devoted to tests of the hypothesis for the three risk types.

1. Perceived Economic Risk. Data for three of the products produce negative t values on the economic risk scale. Two of these, 35mm camera and mouthwash, exhibited this same type of phenomenon in the other two Focal hypotheses. The third product is sports car. Two products provided support for the hypothesis, and three more approach significance.

In the group analysis, the durables and the overall aggregate exhibit significant t values. The t value for the convenience items group approached significant. Thus, overall support is provided for the hypothesis.

2. Perceived Social Risk. Social risk has produced

TABLE 4-16A

COMPARISON OF MEAN ECONOMIC, SOCIAL, AND PSYCHOLOGICAL PERCEIVED RISK TYPES FOR HIGH VS. LOW SELF/PRODUCT CONGRUENCE OWNERS: t-TEST RESULTS

Product	High ≥	Low n	High n	Economic				Social				Psychological			
				$\overline{PER}$		t	Probability > t	$\overline{PSR}$		t	Probability > t	$\overline{PPR}$		t	Probability > t
				Low	High			Low	High			Low	High		
Headache remedy	5	100	62	1.97	1.56	1.98	.03	1.56	1.25	1.90	.03	1.93	1.64	1.29*	.10
Coffee	7	92	60	2.14	1.89	1.03*	.15	1.36	1.49	- .73	.77	1.78	1.45	1.87*	.03
35mm camera	6	35	34	2.79	3.08	- .66*	.74	1.43	1.58	- .62*	.73	1.48	2.05	-1.88	.97
Formal clothing	4	63	71	3.71	3.01	2.17	.02	1.58	1.68	- .46	.68	2.30	1.87	1.67*	.05
Deodorant	7	42	138	2.21	2.04	.59*	.28	1.52	2.12	-1.82	.97	1.79	1.99	- .65	.75
Color TV set	7	62	93	3.81	3.45	1.10*	.14	1.46	1.54	- .44	.67	1.77	1.80	- .12	.55
Sports car	6	15	13	3.45	4.62	-1.37	.91	1.25	1.81	-1.54	.93	1.25	2.78	-2.73	.99
Cologne	6	81	91	2.11	2.05	.29*	.39	1.48	1.46	.15*	.44	1.71	1.73	- .14*	.56
Beer	5	74	52	2.46	2.14	1.17	.12	1.70	1.67	- .09	.54	2.04	1.77	1.04*	.15
Mouthwash	6	87	81	1.86	2.14	-1.21	.89	1.53	1.91	-1.67	.95	1.56	1.76	-1.10	.87
Aggregate		496	850	2.58	2.36	2.13*	.02	1.49	1.67	-2.49	.99	1.84	1.80	.62	.27
Convenience		354	606	2.12	2.00	1.18*	.17	1.48	1.70	-2.43	.99	1.80	1.77	.35*	.36
Durables		142	244	3.71	3.24	2.18*	.02	1.49	1.58	- .74	.77	1.95	1.86	.60*	.27

*t calculated for cases of unequal variance.

consistently contrary results throughout the analysis. The present case is no exception. Only one product (headache remedy) produced a significant t value. None of the others even approached significance. In fact, eight of the products produced negative t values.

The group analyses, obviously, were no better. Three of the products and two groupings, convenience items and overall aggregate, produced t values that were negative.

3. Perceived Psychological Risk. The last section of Table 4-16A contains results for perceived psychological risk. In this case, three products (headache remedy, coffee, and formal clothing) produced significant results. The data for beer approached significance. The remaining six products all had negative values for the test statistic.

Given the rather equivocal results of the product-by-product analysis, it is not surprising that none of the group analyses produced significant results. All three did produce positive t values but only of moderate magnitude.

4. Perceived Risk Model. Table 4-16B presents the results of the analysis for overall risk. The left portion presents the results for the perceived risk model. In this case, seven of the ten products have positive t values, four of them significant. The other three products (35mm camera, sports car, and mothwash) produced negative t

TABLE 4-16B

COMPARISON OF MEAN OVERALL PERCEIVED RISK FOR HIGH VS. LOW SELF/PRODUCT CONGRUENCE OWNERS: t-TEST RESULTS

Product	Perceived Risk Model						Reported Perceived Risk					
	Low		High		t	Probability > t	Low		High		t	Probability > t
	n	$\overline{PR}$	n	$\overline{PR}$			n	$\overline{PR}$	n	$\overline{PR}$		
Headache remedy	100	4.29	62	3.53	2.12*	.02	100	1.60	62	1.48	.58*	.28
Coffee	92	4.36	59	3.68	1.71*	.04	92	1.57	59	1.32	1.36*	.09
35mm camera	35	4.83	34	5.78	-1.32*	.90	35	1.83	34	2.33	-1.28	.90
Formal clothing	62	6.79	71	5.49	2.49	.01	62	2.31	71	2.06	1.00*	.16
Deodorant	41	4.44	137	4.41	.06*	.48	41	1.67	137	1.33	1.62	.05
Color TV set	60	6.34	92	5.97	.73	.23	60	2.54	92	2.25	1.03*	.15
Sports car	15	5.39	13	8.33	-2.53*	.99	15	3.21	13	4.15	-1.20	.87
Cologne	80	4.25	91	4.20	.14	.45	80	1.69	91	1.29	2.38	.01
Beer	73	5.03	51	4.34	1.35	.09	73	1.96	51	1.57	1.55	.06
Mouthwash	86	3.78	80	4.34	-1.49*	.93	86	1.40	80	1.27	.79*	.22
Aggregate	489	4.95	845	4.63	1.91	.03	489	1.88	845	1.65	2.96	.00
Convenience	350	4.36	602	4.17	1.07*	.14	350	1.68	602	1.39	3.74	.00
Durables	139	6.42	243	5.77	1.99*	.02	139	2.38	243	2.31	.36*	.36

*t calculated for cases of unequal variance.

values. For most of the products, results resembled those obtained for the High Self Congruence hypothesis (see Table 4-14B). Those products with noticeable differences in t values also had fairly large differences in cell sizes, thus indicating that the owner group might also be the subject of examination in the High Self Congruence hypothesis for some of the products (e.g., cologne).

In the analysis of the various groupings, the durables produced a significant t value, as did the overall aggregate. The convenience items approached significance. Thus, for the model, the durables seem to have had the most influence in this hypothesis.

5. Reported Overall Risk. The right portion of Table 4-16B contains the results of the analysis for the case of reported perceived risk. In this case, four products provide support for the hypothesis, with two more approaching significance. Two products produced negative t statistics. Both of these had negative t values associated with them in the case of the perceived risk model just discussed.

For reported overall risk, the overall aggregate produced significant results, as for the case of modeled perceived risk. In this case, however, the durables were not significant, while the convenience goods were. This presents the possible conclusion that the risk model is loaded in favor of the durable goods, while reported risk

brings about a greater consideration of the convenience items.

6. Summary. As has been the case with the other focal hypotheses, this hypothesis has achieved overall support in the data. The product-by-product support has been spotty, but fairly consistent. With the exception of the social risk construct, the group analyses have been very encouraging, showing a generally high degree of support for the hypothesis. The results have also demonstrated once again the apparent convenience-durable dichotomy of goods.

Conclusions from Focal Hypotheses Results

On a product-by-product basis, most of the products were consistent in that they either did or did not produce test results which supported the hypotheses. Except for the social risk analyses, most products produced positive t values in most of the 15 analyses performed. Some products, such as mouthwash and color TV sets, have not produced consistent results. They have provided support in some cases and have been opposite to prediction in others. However, for these products, the erratic behavior seems to have been construct specific.

In the case of the overall analyses, support has generally been forthcoming, with the exception of the consistently contrary case of the social risk construct. About the only observation that can be made is that there

do seem to have been some differential influences on the parts of durable and convenience groups.

Structural Analysis

It is desirable to digress briefly to consider whether or not there is some specific structure in the data, since throughout the analysis, data for the various products has yielded results which have varied considerably. The primary purpose in such an exercise is to ascertain whether there are certain products, or certain constructs, which display unique relationships. This involves a series of factor analyses of the data.

Factor analyses were performed on each construct considered in the study, as well as various logical combinations of constructs. Factor patterns were rotated with the Varimax Method for the following constructs and combinations of constructs:

Self/product-image congruence
Ideal/product-image congruence
Simultaneous self and ideal
Individual risk-type consequences
Simultaneous risk-type consequences
Individual risk-type saliences
Simultaneous risk-type saliences
Individual risk-types
Simultaneous risk-types

The tables included below are summaries of the

results of the factor analyses. They are simplified and contain only the indications of which factor loaded heaviest on each product. In some cases, secondary heavy loadings are also included where they are beneficial to interpreting the structure. Table 4-17 contains summaries of the following patterns:

Self/product-image congruence

Ideal/product-image congruence

Simultaneous self and ideal

Table 4-18 contains the risk scales as follows:

Economic risk-type

Social risk-type

Psychological risk-type

Simultaneous risk types

Image Factors

As mentioned, Table 4-17 contains a summary of the rotated factor patterns for the ten products on the self-image to product-image scales. This analysis yielded four significant factors (using the minimum eigenvalue equal one criterion). One factor, the fourth, is unique to a single product, coffee. Each of the other factors group at least two products. Some unusual groupings are apparent. For instance, the first factor groups deodorant and color TV set. The second factor places beer with two of the durables. The third places formal clothing with several convenience items.

TABLE 4-17

SUMMARY OF IMAGE SCALE FACTOR ANALYSES

	Headache remedy	Coffee	35mm camera	Formal clothing	Deodorant	Color TV set	Sports car	Cologne	Beer	Mouthwash
SELF/PRODUCT ONLY										
Factor 1					s	s				
Factor 2			s				s		s	
Factor 3	s			s				s		s
Factor 4		s								
IDEAL/PRODUCT ONLY										
Factor 1					i	i		i		i
Factor 2			i	i			i			
Factor 3	i	i							i	
SIMULTANEOUS IMAGE SCALES										
Factor 1					s,i	s,i				
Factor 2			s,i				s(i)2			
Factor 3		s,i								
Factor 4							(s)2,i		s,i	
Factor 5	s,i									s(i)2
Factor 6				s,i						
Factor 7								s,i		i

s = Heaviest loading on self scale

i = Heaviest loading on ideal self

2 = Heavy secondary loading

Table 4-17 also contains a summary of the rotated factor pattern for the ideal-image to product-image congruence construct. In this case, there are three factors which display much the same configuration noted above. Note, however, that beer has shifted to a convenience item factor and formal clothing has shifted to a durables factor.

The last section of the table considers the constructs simultaneously. The pattern emerging here is essentially product-specific. Three of the seven factors have grouped two products each. The first factor groups deodorant and color TV sets. The second factor groups 35mm cameras and sports cars. Both of these pairings appeared in the individual analyses above. The fifth factor groups headache remedy and mouthwash fairly completely. Note that this case presents only a second heavy loading for mouthwash. This grouping occurred in the self analysis above, but not in the ideal analysis. Coffee and formal clothing each have factors to themselves. Beer also appears "alone" but is fairly associated with sports cars. This is particularly true for ideal self-image where sports car has its heaviest loading. The last factor displays a grouping of cologne and mouthwash which is analogous to that for beer and sports cars, but not nearly as surprising.

Overall, the analyses of the individual constructs and their simultaneous analysis, reveals the same patterns

which seem to be predominantly product-specific. However, color TV seems to associate with convenience goods and beer with the durables. To some extent these phenomena were observed in the hypothesis testing.

Risk Factors

Table 4-18 contains the results for the factor analyses of the risk constructs mentioned above. These will be considered in the order of their presentation in the table.

The first section of the table contains the rotated factor pattern for the economic risk construct. This construct divides the products into two groups (convenience and durable) with one exception--beer is grouped with the durables. Note that this also occurred with the self-image factor.

The second section contains social risk patterns. Again, the logical groupings occur--except now beer is a durable and color TV is a convenience item. Note that for the two anomalies, the secondary loadings are relatively very small. This indicates a very "clean" reclassification for the two products for this sample.

The third section of the table contains psychological risk factors. In this case, the durables group has been reduced to three products--formal clothing, sports cars, and beer. However, 35mm cameras and color TV sets

TABLE 4-18

SUMMARY OF RISK SCALE FACTOR ANALYSES

	Headache remedy	Coffee	35mm camera	Formal clothing	Deodorant	Color TV set	Sports car	Cologne	Beer	Mouthwash
PERCEIVED ECONOMIC RISK										
Factor 1	e	e			e			e		e
Factor 2			e	e		e	e		e	
PERCEIVED SOCIAL RISK										
Factor 1	s	s			s	s		s		s
Factor 2			s	s			s		s	
PERCEIVED PSYCHOLOGICAL RISK										
Factor 1	p	p	p		p	p		p		p
Factor 2			2	p		2	p		p	
ALL TYPES SIMULTANEOUSLY										
Factor 1			p	p		p	p	p		(p)2
Factor 2			e	e		e	e			
Factor 3	e	e			e			e		e
Factor 4		s	s	(s)2			s			
Factor 5				s	s,p	s		s		s,p
Factor 6									s,p	
Factor 7	s,p	p								

e = Heaviest loading on economic risk
s = Heaviest loading on social risk
p = Heaviest loading on psychological risk
2 = Heavy secondary loading

show large secondary loadings. This pattern then, is very similar to the pattern for economic risk.

The final section of Table 4-18 is a summary of the seven factors obtained when all three risk-types were considered simultaneously. In general, the factors are either product-specific or construct-specific. Product-type-specificity is also present, but is secondary to construct-specificity. For instance, factors 1, 2, and 4 load primarily on durables--each factor for only construct. On the other hand, factor 6 loads only on beer. The convenience items are grouped on economic risk, but somewhat disaggregated on the social and psychological risk scales where sub-groupings seem to occur across the two constructs.

In general, the factor patterns for the risk constructs display the same groupings as the image factors. The anomalies of beer and color TV sets are present in both sets of constructs. It can also be said that these analyses exhibit construct-specific, product-specific, and to some extent, product-type-specific factors in the data. They also indicate that the data possess clear distinctions and clean breaks along the various dimensions involved. Finally, the patterns indicate that some products can be expected to display unique relationships among the various constructs. The hypothesis testing discussed earlier pointed out precisely this individuality of behavior.

Chapter Summary

The Image hypothesis set did not receive much support from the data analysis. The Ownership Effect group, on the other hand, received much better support. This effect seems to be pervasive throughout the data. As a matter of fact, ownership seems to have been a problem in the study, often seeming to obscure the relationships sought. In particular, ownership of convenience items overshadowed many of the other phenomena under investigation.

A risk model was constructed which would fit data for this group of products in a general way. This model was tested for four hypotheses. In general, it did not perform as well as the overall perceived risk reported on the questionnaire, but the model did compare fairly well to the scale values.

The risk hypotheses did not predict very well on a product-by-product basis. However, in the group analyses, the risk hypotheses were very accurate. Psychological risk was the best product-by-product predictor. In general, the risk hypotheses displayed a closer relationship to the durables than to the convenience items.

The Focal hypotheses generally received very favorable support. On a product-by-product basis, they were more accurate than any other group of hypotheses. And, of course, they were extremely accurate for the group analyses. Therefore, the main purpose of the dissertation has

been achieved: the demonstration of relationships between self-images and perceived risk.

Some implications of both significant and nonsignificant results and recommendations will be presented in the final chapter.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this last chapter is to provide some overall conclusions which come out of the analysis performed in the last chapter. Once these conclusions are explicated, some recommendations for future research along similar lines will be put forward. The chapter is organized as follows:

1. Conclusions
2. Recommendations
3. Summary

Conclusions

The focus of this dissertation has been the relationships between image and risk and a third variable, time, which provides a backdrop for the relationships and is associated with them. A basic conceptualization was presented for the analysis of these relationships. Although empirical support for the hypotheses put forward in the study was not particularly impressive, it is believed that the basic goal was achieved, even if tentatively. The most important contribution of the study lies not in its insight into nuances of perceptions of 35mm cameras or

deodorant, but in the demonstration that images, risk, ownership, and intentions are simultaneously interrelated. Several conclusions were reached in the process of the analysis. These will be presented and discussed.

1. Evidence of the relationships being sought have been found in the data.

For most of the hypotheses of the study, support was found at aggregate levels of consideration. This is particularly true for the Focal hypotheses group. The hypotheses with the least support were those in the first group which were primarily concerned with a peripheral but important relationship. Generally speaking, most of the remaining hypotheses were supported by product groupings, and sometimes by individual products. In particular, the Ownership Effect hypotheses were supported in nearly every case under investigation.

2. The relationships are not simple and vary from product to product and construct to construct.

The various products under consideration often displayed widely varying relationships within the context of a given construct. In several of the analyses performed, the products group around both significantly positive and strongly negative results at the same time. Even the grouping of the products into convenience and durable groups does not necessarily eliminate this behavior. Some products group one way on one construct and another way on a second construct.

Any given product may also be observed exhibiting varying results from one scale to another. For instance, color TV sets have associated themselves with a perception of economic risk, which is certainly reasonable. Simultaneously, there are several indications that this product is interpreted in a very different way when social or psychological risk are considered. In these cases, the product seems to exhibit relationships which are common to the convenience items, but are not exhibited by the other durables included in the study. Several such nuances seem to be consistently present on a product-specific basis.

3. Different products and product groups display variations in risk/image relationships.

This conclusion is much like the last one, except that it involves two constructs simultaneously. The convenience-durable dichotomy cited above is apparent in the results of many hypothesis tests, to include those for the Focal hypotheses. There is also some product-specific variation in these relationships, as highlighted above. For instance, beer supported the social risk hypotheses consistently while no other single product was in any way consistent on the social construct. The hypotheses were structured in general terms, and did not include any proposals which would have distinguished among the different products or product groups. Had such hypotheses been

constructed, it is likely that the analysis would have supported the distinctions.

4. The various types of risk do not relate in the same manner to image factors.

Economic risk and psychological risk seem to relate to images in the same way generally, and to contribute to overall risk in the same way, although this is not always true on a product-specific basis. However, the evidence indicates that social risk relates in a somewhat different way to the same constructs. In fact, social risk often seems to behave in a manner opposite to that displayed by the other risk types and overall risk. However, it must be pointed out that those products which displayed strong social risk characteristics, such as beer, tended to have this social risk influence their overall perceived risk associations. (These products also had significant social risk coefficients in the risk regressions and produced the highest R^2 values on the basic individual regression models.) Thus, social risk is related in a unique way to the other variables and those products which involve the "most" social risk reflect this relationship. It must be concluded that social risk is related to the products in the study, but in a unique way. Similar arguments may be made for the other risk types.

5. Both risk and image factors seem to vary more widely with durable products than with convenience products.

This phenomenon is more noticeable with the risk

variables, but can also be observed among the image variables. In many instances, durables as a group exhibited a significant relationship when the convenience items did not. The opposite was also true. In general, however, convenience items tended to exhibit the same basic kinds of relationships as their group in general. The durables, on the other hand, often displayed divergent behavior on any one hypothesis.

6. In a general way, image congruence is associated with less risk perception.

Actually, this relationship was the subject of the Focal hypotheses. The results of the analysis performed in conjunction with these hypotheses provides more than adequate support for this conclusion. Most individual products, as well as the various groupings for the products supported the existence of this phenomenon. A notable exception to this conclusion were the results related to social risk. This risk type failed to support the existence of this phenomenon in every case of aggregate analysis. This fact provides even more support for the conclusion before the current one. The last hypothesis also supported this conclusion with its results. Data analysis for this hypothesis also provided strong support for this conclusion. This hypothesis also pointed out another phenomenon which played a vital role in the analysis. This phenomenon is the influence that ownership exerts on other relationships.

7. Ownership was indicated as being related with both image and risk variables.

Results for the Ownership Effect hypotheses indicate clearly that ownership is associated with significantly higher levels of image congruence, particularly self-image to product-image congruence, but also ideal self-image to product-image congruence. The final hypothesis of the study indicated that high image congruence when coupled with ownership (which is apparently the case very often) is associated with significantly less risk perception for all types of risk except social risk. There were some product and product type differences in the data alluded to. These differences do not negate the impact of this conclusion, but, rather, add support to the earlier conclusions on the complexity of the relationships involved in the analysis.

The discussion so far has skirted an issue that has important implications for future research. This is the issue of the nature of risk perception itself. In every case where the two measures of overall risk were compared, the reported overall perceived risk produced more significant differences than did the perceived risk model.

8. Consumers' reports of overall risk predict more accurately than their reports of specific risk types.

Of the five risk tests performed in the Focal analysis and the Overall Risk hypothesis analysis, reported overall risk invariably produced the most significant

results. This implies that neither the risk model nor any of the risk types reported was as accurate, if the assumptions of the study are correct.

The continual differences in the behavior of convenience groups, even for overall reported risk led to the investigation of risk models based on product types. Both the durables group and the convenience group were subjected to regression analysis. The following results were obtained for convenience goods:

$$MPR^* = .26PER + .13PSR + .36PPR \; ; \quad R^2 = .61;$$

and for durable goods:

$$MPR^* = .46PER + .14PSR + .35PPR \; ; \quad R^2 = .71$$

with all regression coefficients significant in both of the models. The results imply that social risk might be differently perceived for convenience products as opposed to durable products.

One final conclusion will be discussed:

9. The relationship between image matching and purchase intention horizons may not have much meaning for many "real" consumers.

The lack of support for any of the Image hypotheses in this study is at variance with earlier results discussed in the literature review. The sample used may be the key to the understanding of this phenomenon. The relative affluence of the present sample may have caused a situation wherein any of the products which might be desired by any of the

respondents could be purchased "immediately," thus precluding any perception of future ownership as might have been the case for college students as used in earlier studies.

These are the major conclusions derived from the analysis of the data collected in the study for purposes of testing the hypotheses. Attention is now turned to some recommendations for future research along related lines.

Recommendations

1. Efforts should be made to construct more meaning-specific and risk-specific product typologies.

It seems logical that there might be products which, due to certain conditions of their use (product life, size, visibility, or cost) might necessitate certain image congruence phenomena. For instance, nondurables, consumables, durables, and luxuries might be differentiated along image lines. Such comparison would produce both similarities and differences in the ways in which different products are "matched" to the consumer's self-image, both in conjunction with and separate from the self-image.

Products and product groups might also be subjected to typological analysis along the various risk lines. For instance, such analyses might reveal why beer acts like a durable with respect to social risk. This recommendation comes from the durable-convenience typology uncovered in the data used to test the hypotheses in this dissertation.

A more specific recommendation along the same lines might be:

2. Refinements should be made in the conceptualizations of durable and convenience goods and in intraclass comparisons.

More often than not, on any given hypothesis, the products within either of the groups exhibited divergent results. Some products crossed group lines. Attempts should be made to ascertain the reasons for such divergence and to capitalize on this understanding to provide refinements for existing schema for categorizing products.

Using just the two constructs discussed--image and risk--the following possibilities exist for product typology investigations.

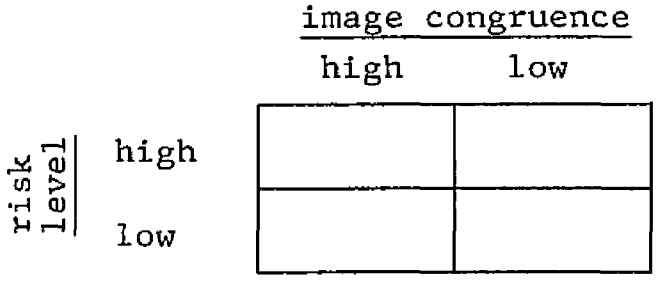

Figure 5-1. Typology for Risk and Image Factors

There are a number of such typologies available for investigation depending on the risk type and/or the image type involved. Of specific interest would be one or the other of the diagonals, but even if attention is focused on only one of the cells much might be learned. Such

investigations need not be limited to products or product groups. The constructs themselves could be subjected to typological development.

3. Construct and interconstruct typologies should also be attempted.

For instance, the Focal hypotheses considered high and low congruence respondents. These were very general hypotheses, but suited to the task. With the information gained, it will now be possible to construct more specific types of hypotheses and attendent typologies. One might, for instance, construct a diagram like the one above, except that here consumers and not products would be in the cells. Furthermore, purchase intention horizons might be added as another dimension for consideration in such constructions.

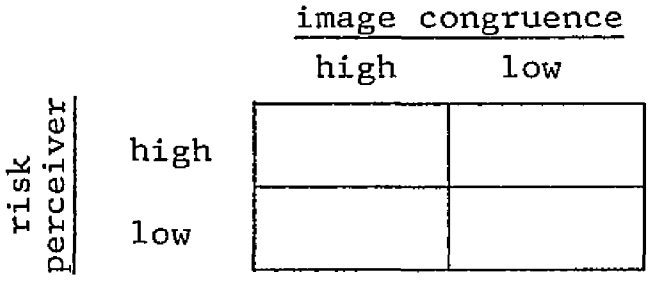

Figure 5-2. Typology of Consumer Types on Risk and Image Factors

This suggests one final recommendation along these lines.

4. Typologies should be integrated to the extent

possible to provide the best possible managerial guidelines.

The integration of just the constructs discussed so far suggests several dimensions available for simultaneous investigation. These are:

product type

risk type

risk level

image congruence

image type

purchase intentions

ownership

Other variables could be added to the list. The point should be clear that the variables investigated in this dissertation and their interrelationships alone provide more than ample challenge and opportunity to add to the store of knowledge of consumer behavior.

Products and consumers are not the only variables which could be subjected to such analyses.

5. Brands of the products considered in the present study should be subjected to similar analysis to yield insights into some of the observed phenomena.

Much of the unexplained variation in the data might have been explained had brands been considered as well as products. The relationship of some products to social risk might be better explained in brand image terms rather than product image terms. Perhaps in a brand level analysis,

economic risk might diminish in salience and social risk might come into a place of prominence in risk modeling. Across product brand analyses are also a possibility.

6. Other market factors should be investigated along the same dimensions as products and brands.

For instance, the term "store image" is often seen and heard. It is likely that store images have dimensions in common with consumer and product-images. "Psychological" pricing also comes to mind as a phenomenon which could be investigated along both image and risk lines. It is even possible that such efforts could be integrated into total marketing programs.

Perhaps the most important recommendation of all relates to the methodology of the study.

7. Reliable and valid instrumentation should be developed to investigate these constructs.

These issues were taken up in Chapter II, but not resolved. Marketing researchers need and deserve instruments which are specific to marketing phenomena. Product anchoring seems to promise much in the way of market-specific instrumentation. Much effort should be directed to producing useful, reliable, and valid measures. One general suggestion is to go into the literature of social psychology and to extract useful measurement devices which, in a general way, relate to the market-specific phenomena under investigation. These measures can be compared to the market-specific device under development. Careful scale

construction and cross validation should eventually yield useful scales for some marketing constructs, such as those under investigation in this dissertation.

A related methodological point is causality.

8. Where possible, causality should be sought out and studied as implications here for the management of marketing activities are immense.

Although a conceptual model including directions was put forward in Chapter III, this model was designed only as a vehicle for the study, not as an actual definition of causal relationships. The causality involved is much more complex (probably) than could be accommodated by our current understanding of consumer behavior. However, a clear understanding of causality would offer much to a model of consumer behavior based on the self.

Summary

This dissertation has related two distinct and important research traditions: image congruence and perceived risk. The literature in both areas has developed to a reasonable extent, although much additional research remains to be completed. While the two traditions are similar, there is one basic difference which might have haunted this effort. Image literature has produced its best results in the range of product type, while risk research has more often focused its best efforts at the brand level. A specific achievement of this dissertation has been to consider the two simultaneously, within the context

of product type, and to establish that the two types of constructs are interrelated.

The dissertation has also established that the interrelationships are complex, sometimes product-specific and sometimes construct-specific. This complexity requires further research along a number of dimensions to establish just what types of relationships are involved, both among these variables and others not considered in this study. Thus, the groundwork for a significant program of research has been laid. There are two main projected outcomes: better modeling of consumer behavior, and, consequently, more effective control of market factors, in theory and application.

Some suggestions have been put forward based on the findings presented here and their complexity. These involve three main channels of research efforts: typological research, topological research, and measurement scale research. There seems to be much promise along these lines, but very little has been accomplished to date. In fact, the current results seem only to hint at the potential richness of investigation along these lines.

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APPENDIX A

QUESTIONNAIRE

The appendix consists of an exact copy of the questionnaire used in the survey.

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388-8684

Your help is needed in a study of the ways consumers think of themselves and some of the products they buy. Would you please take a few minutes and answer the following questions? The information you provide will be very helpful in learning how you and consumers like you relate yourselves to some products you already know about. You will in no way be identified in the research. Your responses will be combined with the responses of quite a few other consumers and your name cannot be associated with the information.

The questions are related to your feelings. It is important that you record your feelings and not think about your responses. The questions refer to how you relate to commonly consumed products and how you feel about purchasing those products. There are no "right" or "wrong" answers. Please complete all the items asked for by simply circling the correct response on the corresponding numerical scales.

The first five questions use rating scales from 1 to 7. In all cases, the number "1" will refer to a feeling of strong disagreement with the statement, and the number "7" will refer to a feeling of strong agreement with the statement. The intermediate points will refer to intermediate strengths of feeling.

1. Please record your feeling about the following statement for each product in the list below by circling the number that represents your feeling.

A person who regularly uses (a) X is like me.

PRODUCT	Strongly Disagree						Strongly Agree
headache remedy	1	2	3	4	5	6	7
coffee	1	2	3	4	5	6	7
35mm camera	1	2	3	4	5	6	7
formal clothing	1	2	3	4	5	6	7
deodorant	1	2	3	4	5	6	7
color TV set	1	2	3	4	5	6	7
sports car	1	2	3	4	5	6	7
cologne	1	2	3	4	5	6	7
beer	1	2	3	4	5	6	7
mouthwash	1	2	3	4	5	6	7

2. Using the same procedure as in question 1, please respond to the following statement.

A person who regularly uses (a) X is like I want to be.

PRODUCT	Strongly Disagree						Strongly Agree
headache remedy	1	2	3	4	5	6	7
coffee	1	2	3	4	5	6	7
35mm camera	1	2	3	4	5	6	7
formal clothing	1	2	3	4	5	6	7
deodorant	1	2	3	4	5	6	7
color TV set	1	2	3	4	5	6	7
sports car	1	2	3	4	5	6	7
cologne	1	2	3	4	5	6	7
beer	1	2	3	4	5	6	7
mouthwash	1	2	3	4	5	6	7

3. In this question, and the following two, two responses are needed for each product. The first relates to your feelings about possible negative outcomes and the other relates to how important these consequences are to you. Note that the scales are side-by-side with the "loss" scale first and the "importance" scale second in all cases. Rating should be done as in the first two questions for each product on both scales.

LOSS: It is probable that if I purchase (a) X, it will lead to economic (monetary) loss for me.

IMPORTANCE: If this economic loss happened it would be important.

	LOSS							IMPORTANCE						
PRODUCT	Strongly Disagree						Strongly Agree	Strongly Disagree						Strongly Agree
headache remedy	1	2	3	4	5	6	7	1	2	3	4	5	6	7
coffee	1	2	3	4	5	6	7	1	2	3	4	5	6	7
35mm camera	1	2	3	4	5	6	7	1	2	3	4	5	6	7
formal clothing	1	2	3	4	5	6	7	1	2	3	4	5	6	7
deodorant	1	2	3	4	5	6	7	1	2	3	4	5	6	7
color TV set	1	2	3	4	5	6	7	1	2	3	4	5	6	7
sports car	1	2	3	4	5	6	7	1	2	3	4	5	6	7
cologne	1	2	3	4	5	6	7	1	2	3	4	5	6	7
beer	1	2	3	4	5	6	7	1	2	3	4	5	6	7
mouthwash	1	2	3	4	5	6	7	1	2	3	4	5	6	7

4. Using the method you used in number 3, please record your feeling about the following pair of statements.

LOSS: It is probable that if I purchase (a) X, it will lead to social loss for me because PEOPLE IMPORTANT TO ME WOULD THINK LESS OF ME.

IMPORTANCE: If this social loss happened it would be important.

	LOSS							IMPORTANCE						
PRODUCT	Strongly Disagree						Strongly Agree	Strongly Disagree						Strongly Agree
headache remedy	1	2	3	4	5	6	7	1	2	3	4	5	6	7
coffee	1	2	3	4	5	6	7	1	2	3	4	5	6	7
35mm camera	1	2	3	4	5	6	7	1	2	3	4	5	6	7
formal clothing	1	2	3	4	5	6	7	1	2	3	4	5	6	7
deodorant	1	2	3	4	5	6	7	1	2	3	4	5	6	7
color TV set	1	2	3	4	5	6	7	1	2	3	4	5	6	7
sports car	1	2	3	4	5	6	7	1	2	3	4	5	6	7
cologne	1	2	3	4	5	6	7	1	2	3	4	5	6	7
beer	1	2	3	4	5	6	7	1	2	3	4	5	6	7
mouthwash	1	2	3	4	5	6	7	1	2	3	4	5	6	7

5. Using the method used in number 4, please record your feeling about the following.

LOSS: It is probable that if I purchase (a) X, it will lead to psychological loss for me because IT WOULD NOT FIT WELL WITH THE WAY I THINK ABOUT MYSELF.

IMPORTANCE: If this psychological loss happened it would be important.

	LOSS							IMPORTANCE						
PRODUCT	Strongly Disagree						Strongly Agree	Strongly Disagree						Strongly Agree
headache remedy	1	2	3	4	5	6	7	1	2	3	4	5	6	7
coffee	1	2	3	4	5	6	7	1	2	3	4	5	6	7
35mm camera	1	2	3	4	5	6	7	1	2	3	4	5	6	7
formal clothing	1	2	3	4	5	6	7	1	2	3	4	5	6	7
deodorant	1	2	3	4	5	6	7	1	2	3	4	5	6	7
color TV set	1	2	3	4	5	6	7	1	2	3	4	5	6	7
sports car	1	2	3	4	5	6	7	1	2	3	4	5	6	7
cologne	1	2	3	4	5	6	7	1	2	3	4	5	6	7
beer	1	2	3	4	5	6	7	1	2	3	4	5	6	7
mouthwash	1	2	3	4	5	6	7	1	2	3	4	5	6	7

6. This question asks you to record when you think you might next purchase each of the products. If you have never purchased any one of the products, this will be when you think you might first do so. Respond by the way you feel, even if you think there is some chance that your expectations will not come about.

When do you next (first) expect to purchase (a) X?

PRODUCT	SOON	NOT TOO DISTANT FUTURE	FUTURE	DISTANT FUTURE	NOT SURE	NEVER
headache remedy	1	2	3	4	5	6
coffee	1	2	3	4	5	6
35mm camera	1	2	3	4	5	6
formal clothing	1	2	3	4	5	6
deodorant	1	2	3	4	5	6
color TV set	1	2	3	4	5	6
sports car	1	2	3	4	5	6
cologne	1	2	3	4	5	6
beer	1	2	3	4	5	6
mouthwash	1	2	3	4	5	6

7. On a scale from 1 to 7 rate the risk you think you would run by purchasing (a) X, where a "1" would be "no risk" and a "7" would represent "maximum risk". This is an overall feeling of risk. This can include economic, social and/or psychological risk as well as any otheyou feel.

PRODUCT	NO RISK						MAXIMUM RISK
headache remedy	1	2	3	4	5	6	7
coffee	1	2	3	4	5	6	7
35mm camera	1	2	3	4	5	6	7
formal clothing	1	2	3	4	5	6	7
deodorant	1	2	3	4	5	6	7
color TV set	1	2	3	4	5	6	7
sports car	1	2	3	4	5	6	7
cologne	1	2	3	4	5	6	7
beer	1	2	3	4	5	6	7
mouthwash	1	2	3	4	5	6	7

8. Please indicate whether you currently own, have recently owned, or don't own each of the products by circling the correct category. Also indicate whether you use the product.

PRODUCT	OWN	RECENT	DON'T OWN	USER
headache remedy	1	2	3	yes
coffee	1	2	3	yes
35mm camera	1	2	3	yes
formal clothing	1	2	3	yes
deodorant	1	2	3	yes
color TV set	1	2	3	yes
sports car	1	2	3	yes
cologne	1	2	3	yes
beer	1	2	3	yes
mouthwash	1	2	3	yes

Please circle the correct classification for each of the following.

SEX: M F

MARITAL STATUS: Married Single

AGE: _____

EDUCATION (yrs completed): _____

OCCUPATION: _____

INCOME RANGE: Under $10000 $10-$15 $15-$20 $20-$30 $30-$50 Over $50

VITA

Corbett F. Gaulden, Jr., was born in Bristol, Connecticut, on August 22, 1946. He received his elementary and secondary education at schools in Louisiana, graduating from Hammond High School in 1964. In 1968 he received the Bachelor of Science degree in chemistry from Southeastern Louisiana University and entered graduate school that same fall. In 1969 he entered the United States Army for a three-year tour of duty. While working as a research chemist from 1972 to 1974, he began pursuing the Master of Business Administration degree. This degree was awarded by Northeast Louisiana University in 1975. He joined the faculty of the University of Southwestern Louisiana in 1975 and was there until 1977 when he entered the doctoral program at Louisiana State University on a full-time basis. He is currently Assistant Professor of Marketing at Arizona State University. He and his wife, Judy, have two daughters.

EXAMINATION AND THESIS REPORT

Candidate: Corbett F. Gaulden, Jr.

Major Field: Marketing

Title of Thesis: An Exploratory Analysis of the Relationships Between Self-Images, Perceived-Risk, and Purchase Intention Horizons.

Approved:

Alvin C. Burns
Major Professor and Chairman

James D. Grayson
Dean of the Graduate School

EXAMINING COMMITTEE:

Ronald F Bush

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Janet F. Fowler

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Date of Examination: July 24, 1979